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# USSR Report

## AGRICULTURE

No. 1373

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## CONTENTS

MAJOR CROP PROGRESS AND WEATHER REPORTING

Progress, Problems in Central Chernozem Seed Procurements
(A. Pylov; SEL'SKIYE ZORI, Nov 82)........................ 1

Severe Frost, Freak Cold Weather in Armenia
(A. Svayan; TRUD, 24 Dec 82).............................. 8

LIVESTOCK

RSFSR Cattle Processing Organization Held Unsatisfactory
(N.Demidov; SOVETSKAYA ROSSIYA, 7 Jan 83).................. 11

REGIONAL DEVELOPMENT

Scientific Efforts in Behalf of Further Agricultural Development in RSFSR
(I. Shatilov; SEL'SKOYE KHOZYAYSTVO ROSSII, Dec 82)....... 16

Implementation of Scientific Achievements in Agricultural Production
(P. Paskar'; TRUD, 26 Dec 82)............................. 22

AGRO-ECONOMICS AND ORGANIZATION

Minister Presents Status Report on Estonian Agriculture
(Vello Lind; RAHVA HAAL, 8 Dec 82)....................... 27

Estonian Farm Leaders Wish for More Autonomy
(Evald Jogis; RAHVA HAAL, 11 Dec 82)..................... 32

Official Interviewed on CEMA Collaboration in Food Supply
(Belane Kadar Interview; EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, Dec 82)........................ 36

Prospects for Agro-Industrial Complex in Third Year of Five-Year Plan
(EKONOMIKA SEL'SKOGO KHOZYAYSTVA, Jan 83).................. 41

Problems in Setting Up Vologda Oblast RAPO Pointed Out
(Yu. Nikolayev; SOVETSKAYA ROSSIYA, 3 Oct 82)............. 52

Magnitogorsk Subsidiary Enterprises Evaluated
(F. Pivovarov; KHOZYAYSTVO I PRAVO, Dec 82)............... 57

TILLING AND CROPPING TECHNOLOGY

Inadequate Application of Research in Plant Genetics
(A. Sozinov; PRAVDA, 17 Dec 82)........................... 63

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# PROGRESS, PROBLEMS IN CENTRAL CHERNOZEM SEED PROCUREMENTS

Krasnodar SEL'SKIYE ZORI in Russian No 11, Nov 82 pp 30-32

/Article by A. Pylov, candidate of agricultural sciences and chief of the Department of Procurements of High Quality Seed for Grain and Oil-Bearing Crops and Grasses of the USSR Ministry of Procurements: "Tomorrow's Grain Fields"/

/Text/ Great tasks have been assigned to the kolkhozes and sovkhozes in the central chernozem economic region with regard to the sale to the state of high quality seed for many grain and pulse crops, seed which is required by farms in the northern oblasts where such seed does not always ripen. However, from year to year the region's farms are failing to fulfill their plans for procuring such seed. In 1980, for example, only 36 percent of the seed called for in the task was supplied. The shortfall amounted to 388,000 tons and this substantially affected the seed supply for the kolkhozes and sovkhozes, especially that for the spring grain crops. Whereas the obligations to the state with regard to the winter crops were fulfilled by the kolkhozes and sovkhozes in Belgorod (109 percent), Voronezh (176 percent) and Tambov (107 percent) Oblasts, in Lipetsk Oblast they were fulfilled by only 17 and in Kursk Oblast -- by 60 percent. Oblasts which had overfulfilled their plans for procuring winter crop seed were unable to cover the task for the zone and as a result there was a shortfall of 2,400 tons. Owing to inclement weather during the harvesting period for the spring grain crops, the kolkhozes and sovkhozes in Belgorod, Voronezh and Tambov Oblasts were able to fulfill their contractual obligations for the sale of this seed to the state resources by less than one half. And the farms in Kursk and Lipetsk Oblasts for all practical purposes did not participate in the procurements of high quality seed (Kursk -- 1.4 percent and Lipetsk -- 9.4 percent of the plan).

The contractual obligations for the procurements of high quality seed for spring crops in this zone were fulfilled mainly by means of barley and peas. The northern rayons in Tambov Oblast, for example, owing to unfavorable weather conditions during 1980, were left without seed. Thus a requirement existed for both persistence and organizational ability in order to ensure that sufficient seed would be procured in the southern rayons to satisfy local needs and also for creating a reserve for exchange purposes and for sale to the state resources. Meanwhile, great difficulties developed in the southern part of the oblast in connection with procurements of high quality barley seed. Owing to rainy weather, the barley was left standing too long. Seed batches which had been made ready for shipment contained more than 8 percent sprouting grains. And still the kolkhozes and sovkhozes were able to lay away the required amount for their own needs and for selling approximately 18,000 tons of high quality barley seed (47 percent of the plan) to the state resources. This was considerably more than the figures for Kursk and Lipetsk Oblasts taken together.

It is noted that the agricultural and procurement organs in Tambov and Voronezh Oblasts, under extremely complicated conditions, organized the work in a manner such that the high quality seed for peas which was badly needed for the farms was procured not only at seed production farms but also at other farms. As a result, 25,000 tons of pea seed, or 66 percent of the plan, were delivered to the grain receiving enterprises. Tambov Oblast fulfilled the task for this crop by 117.4 percent. This constituted a great success.

At the same time, Belgorod Oblast fulfilled its plan for peas by only 15 percent and Lipetsk Oblast -- by 34 percent. The farms in Kursk Oblast generally did not participate in the deliveries of seed for this crop to the state resources, although the procurement plan was not very great (15,000 tons) and 19,600 tons were obtained there (an average cropping power of 9.9 quintals per hectare). It bears mentioning that in 1980 this oblast did not sell 1 ton of seed for spring wheat, oats, millet or buckwheat and Lipetsk Oblast -- spring wheat, millet or buckwheat. Meanwhile the gross yield of grain crops in these oblasts made it possible to fulfill the plan for the procurements of high quality seed.

It is appropriate to cite the bitter experience of the 5 preceding years. During the years of the 10th Five-Year Plan, the kolkhozes and sovkhozes in Lipetsk Oblast did not fulfill their plan for procuring high quality seed for the state resources for any one of 10 crops. The lowest indicators for the sale of high quality grain crop seed to the state resources occurred in 1980. This was the direct result of inadequate control over the course of procurement operations by workers attached to the oblast grain products administration, the state inspectorate for procurements and the quality of agricultural products and the agricultural organs.

Lipetsk Oblast -- a producer of high quality seed for grain and pulse crops for the nonchernozem zone -- has actually been converted into a consumer of seed. Over the past 5 years (1977-1981), the oblast's farms have imported 5,000 more tons of seed than they have shipped beyond the borders of the oblast. The work of obtaining high quality seed for millet, buckwheat and in 1980 -- for peas -- from the state resources (imported from other oblasts and republics) has been developed into a system. For all practical purposes, shipments of high quality seed for barley, oats and peas were terminated in 1979 and thereafter in 1978 -- seed shipments for winter and spring wheat and vetch.

A disruption in the plans for procuring high quality seed for the state resources led to a situation wherein low quality seed was being used for sowing operations. In the spring of 1981 the kolkhozes and sovkhozes in Lipetsk Oblast used 17,500 tons of non-graded seed for sowing purposes. This amount included 680 tons of barley containing 680 seeds for wild oats in each kilogram. Thus, for each square meter of sowing (more than 2,000 hectares), there would be not less than 20-22 seed of this malicious weed. In a batch of Odesskiy-36 barley seed (5,000 tons), there were from 180 to 1,000 wild oats seeds in each kilogram. And in 1,500 tons of Volzhskoye-3 and Saratovskoye-2 millet seed, there were from 150 to 2,400 seeds for yellow foxtail and Japanese barnyard millet per kilogram. In the face of such a high degree of weediness and despite double and triple cleaning, success was not achieved in improving the seed to sowing condition. Even when sowings were carried out for green feed or for hay, the lands were contaminated by the seed of these malicious plants and definite complications were created with regard to removing them from the fields.

In July of 1981, the CPSU Central Committee and the USSR Council of Ministers called for a number of additional measures aimed at ensuring that the kolkhozes and sovkhozes are fully supplied with the seed required for their grain and oil-bearing crops and grasses and that the required carry-over supply is created.

By way of an exception, the grain receiving enterprises were authorized to accept high quality and hybrid seed for grain and pulse crops, in exchange for mixed feed and forage crop grain, from those kolkhozes, sovkhozes and other agricultural enterprises and organizations which were unable, owing to inclement weather conditions, to fulfill their 1981 plans for selling grain to the state.

However, not all of the kolkhozes or sovkhozes took advantage of this opportunity. For the economic region as a whole, the plan for selling seed to the state resources was fulfilled by only 50 percent. However, under the same complicated conditions Voronezh Oblast fulfilled its plan for high quality winter crop seed by 226 percent, Belgorod -- by 123 and Kursk -- by only 60, Tambov -- by 28 and Lipetsk -- by only 11 percent. The zone's farms should have supplied the state resources with almost one fourth of the winter crop seed procured in the RSFSR. Fulfillment of the plan fell short by 14,000 tons of this seed. Strangely enough, not one oblast fulfilled even the minimum tasks and obligations with regard to procurements of high quality winter rye seed for the state resources (27,000 tons). In the case of spring wheat seed, the farms in Kursk Oblast supplied almost 3.5 times more of such seed than called for in the task and in this manner they covered non-fulfillment of the Plans by kolkhozes and sovkhozes in Lipetsk and Tambov Oblasts.

The region's farms fulfilled their plans for procuring high quality buckwheat and millet seed for the state resources in a generally satisfactory manner. Fine work was carried out in this regard by the agricultural and procurement organs in Voronezh, Belgorod and Kursk Oblasts. In addition, the workers in Voronezh Oblast covered the task for pea seed: in behalf of the plan for the TsChO /Central Black Earth Region/, they furnished more than one fifth of the seed for this crop. The workers in Belgorod Oblast accounted for almost one half of all barley seed procurements in the region. The workers in Kursk Oblast distinguished themselves with their sales of oats seed. But just as in previous years, the farm leaders and specialists in Lipetsk Oblast performed in a very weak manner with regard to seed procurements for the state resources. The lowest indicators were for winter rye (15 percent), winter wheat (9 percent), buckwheat (0.5 percent) and millet (22 percent). Did the possibility exist of supplying a larger quantity of seed for the state resources? Beyond any doubt! Indeed the oblast's kolkhozes and sovkhozes were able to supply the grain receiving enterprises with 14,000 tons of wheat. Only 9 percent of the plan for procuring high quality winter wheat seed was fulfilled. Two hundred and twenty tons of high quality millet seed were supplied and marketable millet -- approximately 600. The possibility existed of procuring more buckwheat and millet seed.

The seed procured in Lipetsk Oblast was of low grade quality. In accordance with the standards, grain crop seed that is no lower than the fifth reproduction can be sown. Yet a completely different trend is observed on the farms in Lipetsk Oblast.

Whereas in 1978 seed from the sixth and subsequent reproductions constituted 3.8 percent of the overall volume of procurements for the state resources, in 1979 -- 13.8, in 1980 -- 27.7 and in 1981 -- 33.3 percent.

The sowing qualities of the seed procured for the state resources were even worse. During the 1977-1980 period, the farms supplied 126,500 tons and it was all non-graded grain. Moreover, more than 90 percent of this seed did not meet the requirements of the seed standard with regard to the presence of difficult to separate out crop and weed impurities. One of the principal reasons for the delivery of low quality seed to the state resources -- the production and procurements of seed in considerable volumes from non-seed production farms, where seed production is still being carried out at a low agrotechnical level and where only a weak campaign is being waged against weedy fields and roads and against smut diseases.

The preservation of the sowing qualities of high quality seed could be promoted by continuous, around-the-clock seed preparation work at drying and cleaning complexes of kolkhozes and sovkhozes and this is being done in particular in Belgorod Oblast. Here the procurement specialists are furnishing assistance to the farmers. A fine example of this is the processing of high quality grain crop seed at the Belgorod Grain Products Combine. Here, on a ZAV-40 unit, seed which is non-graded in terms of purity is raised to the norm for 2d class following processing, with its output reaching 85 percent. Seed at the Tomarovskiy and Novoborisovskiy grain receiving enterprises is being improved to the requirements for 2d class of the seed standard.

By 20 September 1982, the kolkhozes, sovkhozes and grain receiving enterprises in Tambov Oblast had successfully fulfilled their plan for procuring high quality grain crop seed. Against a plan calling for 69,500 tons, 87,800 tons or 122 percent of the plan were supplied to the state resources, including winter rye -- 153 percent, oats -- 179 and barley -- 160 percent. Meanwhile the farms in neighboring Lipetsk Oblast fulfilled their obligations by only 57 percent (only the winter rye task was over-fulfilled -- by 128 percent). Just as in previous years, the region's kolkhozes and sovkhozes have not coped with the plan for selling high quality seed for peas. As of this date, 27,400 tons of seed or 38 percent of the plan have been supplied to the state resources. Meanwhile, the opportunities for supplying the state resources with an additional quantity of seed from the overall volume of marketable peas being delivered to the grain receiving enterprises are considerably higher in a number of oblasts. Whereas the procurements of high quality seed for peas on farms in Belgorod Oblast amounted to 78 percent of the amount of grain from this crop sold, in Voronezh Oblast -- 82, Kursk Oblast -- only 40, Lipetsk Oblast -- 41 and in Tambov Oblast -- 57 percent.

Good quality seed is the gold fund of a crop. Fields sown with good quality grain of highly productive varieties are always very generous. One of the greatest concerns of the farm leaders and specialists and agricultural organs is that of augmenting the supplies of such seed and converting seed production over to an industrial basis.

The conditions for the successful fulfillment of the plans for procuring high quality seed for the state resources are: the majority of the seed production farms raise their own grain and oil-bearing crops using regionalized varieties of high reproductions and the technical base of the kolkhozes and sovkhozes and the material interest of the workers and kolkhoz members make it possible to raise the seed to a high sowing condition.

The work of concluding contractual agreements for procuring high quality seed for winter and spring grain crops must be carried out mainly at seed production farms. And only in the case of certain varieties of high reproductions and then only by way of an exception -- at non-seed production kolkhozes and sovkhozes.

Proper credit must be given to the kolkhozes, sovkhozes and grain receiving enterprises in Belgorod Oblast. This year they concluded contractual agreements for all of the crops and for the entire amount of high quality seed. In Tambov Oblast, the contracting for high quality seed is carried out only by specialized grain / receiving enterprises.

Unfortunately, just as in previous years, the contracting for procurements of high quality grain crop seed for the state resources in Lipetsk Oblast is being carried out mainly at non-seed production farms. Of the 1982 harvest, 56 sovkhozes must supply the oblast's specialized grain receiving enterprises with more than 48,500 tons of grain crop seed and 74 non-seed production farms -- more than 25,000 tons, or 34 percent of the total amount contracted for. In addition, according to preliminary computations and based upon contractual agreements, 21 sovkhozes will supply non-specialized grain receiving enterprises with approximately 12,000 tons of grain crop seed and non-seed production farms will supply almost 8,600 tons. Overall, by the end of this year, 77 seed production farms must supply the state resources with more than 60,000 tons of grain crop seed, or 64 percent of the overall amount, and 94 non-seed production farms -- 33,600 tons (36 percent). On the average, each seed production farm will supply 784 tons of high quality grain crop seed and each non-seed production farm -- only 357 tons. This indicator is even lower at a number of grain receiving enterprises (Naberezhanskiy, Gryazi, Lipetsk).

Despite the fact that high quality seed from non-seed production farms will be added to the state resources, definite difficulties are being created with regard to fulfillment of the procurement plans for some varieties of spring wheat, barley and oats, with the deficits in these varieties having to be covered by means of other varieties. For example, a shortfall in Nosovskiy-6 barley is compensated for by Nutans-244 and shortages in L'govskiy-1026 oats and Khar'kovskaya-46 spring wheat -- by the L'govskiy-78 and Moskovskaya-35 varieties.

From this year's harvest and without any limitation (with the payment of monetary bonuses for high quality), the grain receiving enterprises are authorized to procure from all farms having approved sowings, for adding to the state resources, seed for deficit and promising varieties of grain and oil-bearing crops and also regionalized varieties of Voskhod-2 winter rye, oats, pulse crops, buckwheat, the spring wheat varieties of Saratovskaya-42, Skala, Moskovskaya-35, Mironovskaya Yarovaya and Saratovskaya-46 and all varieties of durum wheat, Amfidiploid-206 and Amfidiploid-1 winter Tritikale, Zarya and Sete-Tserros-66 winter wheat and Mironovskoye-94 and Saratovskoye-2 millet.

The list of deficit varieties of grain and oil-bearing crops for the central chernozem zone is as follows: for Belgorod Oblast -- Voskhod-1 winter rye, Akhtyrchanka and Zaporozhskaya Ostistaya winter wheat, Utro winter rye for feed, Gorizont oats, Nutans-518 spring barley and Orlovskaya-37 spring vetch; for Voronezh Oblast -- Bezenchukskaya-139 spring wheat, Dvoran and Donetskiy-8 spring barley, Gorizont oats, Neosypayushchiysya-1 and Zelenozernyy-1 peas, Zernogradskiy-9 peas for feed, Utro winter rye for feed and Voronezhskiy-436 sunflowers; for Lipetsk Oblast -- L'govskaya-77 winter wheat, Bezenchukskaya-139 spring wheat, Otrastayushchaya-38 winter wheat for green feed, Utro winter rye for green feed, Mironovskoye millet, Gorizont oats, Chishminskaya buckwheat and Voronezhskiy-272 sunflowers; for Kursk Oblast -- Voskhod-1 winter rye, Belgorodskaya-5 and L'govskaya-77 winter wheat, Kormovaya-61 winter rye for feed, Karina spring barley, Neosypayushchiysya-1 peas, Khar'kovskiy-74 peas for feed and L'govskaya-28 spring vetch; for Tambov Oblast -- Chulpan winter rye, Gorizont oats, Zernogradskiy-9 peas for feed, Okula lentils and Trudovik sunflowers.

Of the promising varieties of grain and oil-bearing crops: for Belgorod Oblast -- Chayka winter wheat, Favorit spring barley and Rapid spring barley, Voroshilovgradskiy Yubileynyy peas, Yenisey and Pochin sunflowers, Teezinskaya-24 and Amurskaya-310 soybeans, Zelenyy oats for feed and Khar'kovskoye Kormovoye millet for feed; for Voronezh Oblast -- Tarasovskaya-29 winter wheat, Talovskaya-12 winter rye and Yenisey sunflowers; for Kursk Oblast -- Chayka winter wheat and Druzhba, Opal, Lada, Gerlinde and Korall spring barley; for Lipetsk Oblast -- Chulpan winter rye, Saratovskaya-54 spring wheat, Spartan and Opal spring barley, Skorospelyy and Yenisey sunflowers; for Tambov Oblast -- Bezenchukskaya-139 spring wheat, Favorit and Opal spring barley, Yenisey sunflowers and Start lupine.

For the seed for deficit and promising varieties and hybrids of grain and oil-bearing crops, the kolkhozes, sovkhozes and scientific research institutes are paid a monetary bonus for high quality which is 10 percent higher than that for the usual varieties, regardless of the amount of seed sold or the existence of a contractual agreement for procuring it.

The list of deficit varieties of perennial and annual grasses for Belgorod Oblast includes: Pavlovskaya Pestraya alfalfa; for Voronezh Oblast -- Pavlovskaya pestraya meadow clover, Pavlovskaya Pestraya alfalfa, Pavlovskiy Hungarian sainfoin and Pavlovskaya meadow fescue; for Lipetsk Oblast -- Pavlovskiy-16 meadow clover and Morshanskaya-4 meadow fescue. The monetary bonus for such seed of deficit varieties and types -- 50 percent of the procurement prices. In addition, for each quintal of grass seed sold to the state a counter sale of mixed feed is organized. Thus, for 1 ton of seed for white or alsike clover or alfalfa, 10 tons of mixed feed are due, for a ton of meadow clover -- 8 tons of mixed feed and so forth.

For agricultural workers and workers attached to procurement organs in the zone, one of the more important tasks is that of carrying out the contractual obligations for supplying the state resources with high quality seed for grain, pulse and oil-bearing crops and grasses and not only in the full amounts but by crops, varieties and hybrids.

Over the past 10 years, a considerable increase has taken place in the extent of use of arable land and other fertile lands for the purpose of open-cut mineral mines and for the construction of enterprises, populated points and so forth. In Kursk and Belgorod Oblasts alone, the amount of land lost in this manner presently exceeds 35,000 hectares.

This requires the adoption of measures aimed at preserving and making rational use of the upper and more fertile layer of land thus disturbed. When selecting the methods for recultivating them, particularly in the Kursk magnetic anomaly -- in the zone characterized by favorable soil-climatic conditions for farming, we were guided by the fact that the land in this region must be used primarily for agriculture (arable land and haying lands), with forestry and recreational use occupying second place in the utilization of restored lands. The problem of land recultivation is especially vital in view of the large amount of fertile humus soil, in the form of chernozem and grey forest soils, that has been removed from use by the mining industry.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SEVERE FROST, FREAK COLD WEATHER IN ARMENIA

Moscow TRUD in Russian 24 Dec 82 p 4

[Article by A. Svayan (Yerevan): "Freezing, Thawing and Icy Conditions"]

[Text] The weather situation has been unusual in Armenia this winter.

If the republic's weather forescasters had drawn a color chart of the weather during the past two months it would have looked just like an abstractionist painting. The most unexpectedly sharp changes in colors would have been found next to one another on it: the temperature contrasts in regions located next to one another would have looked like the crimson colors of a warm autumn and the relatively white colors of the winter frost. It seems that nature decided to mix up a cocktail of sun and snow, heat and frost, adding to this exotic mixture such spices as "ice crust," "thawing," and "dripping icicles." In the northeastern regions of the republic the sun warmed the air to 10-15 degrees above zero, and nearby in Aparan, Razdan and the Shirak Plateau the Siberian frosts set in, dropping the mercury to 18-20 degrees below zero.

The first signals of the unusual winter came in November. After the warm weather, freezing suddenly set in—a cold front began to invade Armenia from Scandinavia. Snow fell in the mountain regions of Zangezur. The depth of the snow cover reached 150-180 centimeters in individual places. According to specialists, this was the first time in the past 50 years that such a phenomenon was observed here.

"We were prepared to fight off the onslaught of nature," said the first secretary of the Kafanskiy party raykom, R. Gunyan, who is in charge of the staff for fighting against the elements. "The technical equipment was ready, as were special detachments which included collectives of industrial enterprises and organizations of the city."

The situation was especially difficult in 15 villages of the rayon which were cut off by the snow banks from the city and the main highways. Within 24 hours the roads to 10 of these were cleared. It was difficult to get through to the other villages. Helicopters helped.

The crew of the MI-8 helicopter sounded the alarm. In the mountain village of Lernadzor a farm was carried away by an avalanche. A field camp and a herd of sheep was left under the snow . . . .

"Thanks to the helicopter operators, they managed on time. Another couple of hours and who knows . . ." a sovkhoz shepherd, I. Sadykov, smiling, stretched out his arms. "As soon as I leave the hospital I am going to invite the entire crew over."

Today everyone knows the commander of the subdivision of helicopter pilots, S. Oganyan, the on-board mechanic, G. Oganesyan, the second pilot, A. Kakoyan, and the instructor pilot, V. Karantinskiy. They helped the shepherds both during the emergency and later and the region began to eliminate the consequences of the destructive elements. They worked without sparing efforts. They restored and repaired 30 animal husbandry farms, other facilities, communications lines, electric power transmission lines . . . . The Central Committee of the Communist Party of Armenia and the republic government allotted the necessary funds. Now life in the regions of mountainous Zangezur has resumed its normal course.

But nature has not calmed down. For the third week now Yerevan residents have been listening hopefully every morning to the voice of the speaker who gives the weather forecast, attentively, as if fearing to miss something, and they look at the face of the electronic thermometer that is installed in the building of the opera theater. No, its flickering point of light does not register heat. Before the 7, 8, 9 and even greater there is still the same minus sign . . . .

The radio sounding balloon, which had been torn away from the installation, burst upward, carrying the radio into the sky. The hydrogen-filled balloon gradually became smaller and then disappeared into the dense dank mass hanging over the Ararat Valley. A perforated tape crawls out to the monotonous accompaniment of the radio signal from the equipment installed at the aerological station of the republic's hydrometeorological service.

"What is expected tomorrow?" the chief of the Yerevan weather bureau, A. Torosyan, shrugged his shoulders:

"There will be no significant changes. The low temperature will stay. But it is not a matter of that. At the beginning of December on the territory of Transcaucasia there was an influx of warm air masses from regions of the Near East and the Mediterranean Sea. In Azerbaijan, Georgia and the south of our republic the temperatures have become fairly high. But in the remaining high mountain regions of Armenia, where the snow cover persists, this heat is not retained during the night. Therefore the temperature drops."

The climatic conditions have become extremely unfavorable in the Ararat Valley. The specific topography has retained the cold air in the trenches. The warmer masses, sliding along this cold pillow, are not retained. There is no so-called turbulent exchange. The radio signal balloon, having risen above the surface of the land, gives paradoxical information at first glance. The air there is 8-10 degrees warmer than on the land.

Of course such a situation has an unfavorable effect on agriculture, particularly on winter crops. Everywhere in the republic the farmers are taking measures to prevent losses.

Transportation, communications and supply workers have not allowed the weather to change their indicators either. The highways and mountain roads are being increasingly controlled, additional posts have been established on the passes and GAI motor vehicles are used for patrolling.

And what about the temperature? Weather forecasters promise that it will rise and in January will be within the normal range.

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## RSFSR CATTLE PROCESSING ORGANIZATION HELD UNSATISFACTORY

Moscow SOVETSKAYA ROSSIYA in Russian 7 Jan 83 p 3

/Article by N. Demidov, Vilnyus-Minsk-Moscow: "Prolonged Coordination"/

/Text/ The editorial board continues to receive letters concerning violations of the rules governing the processing of cattle at meat combines, conflicts between the agricultural and meat industry workers and product losses and misappropriations. These problems have been discussed on more than one occasion in SOVETSKAYA ROSSIYA.

The RSFSR Ministry of the Meat and Dairy Industry, recognizing these shortcomings, has informed the editorial board regarding the measures planned. However, a year has passed and there has been no change in the situation.

What can be done to ensure reliable protection for the products, eliminate abuses and misappropriations and to raise procurement discipline? Methods for accomplishing this have been found in a number of union republics and useful experience accumulated. In the interest of studying and utilizing this experience, the RSFSR Minzag /Ministry of Procurements/ and Minsel'khoz /Ministry of Agriculture/ sent their specialists into Lithuania and Belorussia. They were accompanied by one of our correspondents.

For 12 years now, cattle have been accepted in Kapsukskiy Rayon in the Lithuanian SSR based upon their live weight directly at the farms and transported by motor transport provided by the meat combines. All of the computations for the young bulls and hogs have been carried out at the site. That is, the processing industry bears complete responsibility for its raw materials immediately following their procurement at the kolkhozes and sovkhozes. What has been the result?

"In all probability, long lines of vehicles at the gates of the meat combines in many rayons and livestock being held too long in the pens of enterprises have been common occurrences" related the chief zootechnician of the Kolkhoz imeni Kapsukas B.A. Vidmanas. "This was formerly the case with us. For example, I had to wait for days before being able to turn over a group of livestock. Is it necessary to state that the holding of young bulls for too long a period led to losses in meat? Today the situation is different. We devote all of our efforts to producing the products and the processing workers -- to ensuring that they are fully protected and utilized effectively."

"Truly, better order now prevails" confirmed the chief of the raw materials department of the Alitus Meat Combine A.S. Yaremichyus, "We control the deliveries of raw materials ourselves and we monitor the situation to ensure that the transport schedules are followed. Thus traffic jams at the gates to the meat combine have been eliminated almost entirely. There is another and equally important aspect. We devote constant attention to the path followed by a young bull from a farm to the freezer compartments, since in addition to the meat we also obtain many other products from the animals. Figuratively speaking, every strand of wool is taken into account."

At the present time, a conversion has been carried out throughout all of Lithuania over to accepting livestock according to their live weight directly on the farms. In 1981, 290,000 tons or 70 percent were accepted in this manner. Moreover, a method was tested here which is in use in a majority of other regions throughout the country, including the Russian Federation -- a computation based upon the yield and quality of the meat. However, this method was employed for less than a year in the Baltic republic and then rejected. Why?

"We noted that at the time the meat combines lacked control over the products" explained the deputy minister of agriculture for the Lithuanian SSR V.A. Stankyavichyus, "It was a strange situation: the livestock were in the hands of the processing workers and yet they bore no responsibility for them. This provided fertile ground for all types of abuses to occur."

But indeed there were representatives of the kolkhozes and sovkhozes at the enterprise during this period...

"True. However, these individuals were agricultural specialists and thus did not usually possess an understanding of the industrial technology. Yes and one needs only to try to keep an eye on hundreds of head of livestock. Earlier this pointless work was carried out by 25 zootechnicians at each combine, individuals who were diverted from their direct responsibilities."

"An important condition when accepting animals on the farms is their hunger status. What happens if, assuming the accounts are maintained on a live weight basis, the animals are fed immediately prior to being turned over? Does this not involve an increased payment?"

"Prior to shipping livestock for processing, we mark them and thus the combine can readily detect who has engaged in deception" answered V.A. Stankyavichyus, "With the participation of representatives of the Ministry of Procurements, a document is composed with the immediate culprit -- a livestock breeder -- and the total amount of the loss is exacted from him. Moreover, such incidents are very infrequent: nobody wishes to pay a fine."

Thus the method employed in Lithuania provides an important advantage -- it raises the exactingness and discipline for all those associated with the fattening and processing of livestock. But if there is an obvious gain here for the kolkhozes and sovkhozes, then is there not a loss for the meat industry?

"Instead of departmental interests, one must concentrate more on the national economic concerns" stated the deputy minister of the meat and dairy industry for the Lithuanian SSR V.V. Vitautas, "Certainly, we are concerned regarding all of the production sectors and yet we are aware that by raising our own responsibility we are also solving the state problem. A reduction is taking place in product losses and improvements are being realized in the use of specialized motor transport vehicles -- each vehicle transports 1,500 tons of livestock annually, twice as much as when the old method was employed.

There is still one other important aspect: damage to the animals during shipments has decreased and this has resulted in an improvement in the meat. Almost all of the leather raw materials being shipped from the combines is of 1st grade quality and not 70 percent as was formerly the case.

During the acceptance of livestock on the farms, disagreements may arise when determining their nutritional state. But these differences are easily resolved. If those accepting the animals feel that the young bulls have not achieved the desired condition, they are left at the kolkhoz or sovkhoz for additional fattening.

It would appear that considerable differences of opinion have been eliminated and order restored in the relationships between agriculture and the processing workers. It has been proven that when animals are held over too long at the meat combines, they lose an average of 10 kg of weight and this type of loss is being curtailed here. Why is it not possible to adopt the fine experience that has accumulated in other republics?

"We believe that such experience does not suit us" exclaims the deputy miniters of the meat and dairy industry for the RSFSR N.D. Abramov, "The acceptance of livestock according to live weight directly on the farms creates additional difficulties and it also engenders conflicts. We are introducing a proposal of another type: the organization of centralized shipments on a more extensive scale and the acceptance of the livestock at the site, but with the computations for the livestock based upon the meat yield and quality."

Such a method is being employed in the Belorussian SSR. During 1982, almost 600,000 tons of livestock were shipped from the farms on a centralized basis. And truly this raised the effectiveness of use of the specialized motor transport vehicles of the union republic's Ministry of the Meat and Dairy Industry: it is 18-20 percent higher than at kolkhozes and sovkhozes and the delivery schedules are being followed in a more strict manner. But whereas improvements were realized in the case of shipments, other shortcominbs still remained -- the holding of the animals for too long a period at the combines, product losses caused by this factor and violations of the processing technology.

"It is not surprising that they remained" stated the chief of the Main Administration for Animal Husbandry of the Belorussian Ministry of Agriculture L.V. Magonov, "The representatives of the meat industry often intertwine two different concepts. Centralized shipments are only centralized transport and no more. And acceptance at a site -- procurements, that is, a final computation directly at a farm. With us the situation is as follows: a kolkhoz or sovkhoz orders tranport from the meat combines and the vehicles come and carry off the animals. Later the animals are returned once again to the refrigerator of the enterprise but now they are ownerless. We are not at all pleased with this system. We are devoting a great amount of effort towards adopting the operational experience accumulated in Lithuania as being the most effective and economic method.

We held discussions with specialists of the ministries of procurements and the meat and dairy industry of the BSSR, scientists attached to the All-Union Insitute of Animal Husbandry and with party and soviet workers and we heard the same opinion being expressed in all areas: centralized shipments represent only one part of solving the problem, one step towards reducing the losses in farm products. And this step is still not bringing about a considerable increase in exactingness with regard to partners in the agroindustrial complex.

By rejecting the acceptance of livestock at a site according to live weight, the RSFSR Minmyasomolprom /Ministry of the Meat and Dairy Industry/ is simply looking for the means for avoiding responsibility for the animals assigned to processing. Approximately 1 year ago this position was explained in SOVETSKAYA ROSSIYA in the article entitled "Do Not Circumvent This Aspect!" Uncontrolled raw materials make it possible to obtain additional profit and to cover all expenses caused by misappropriations on the production line.

In Russia there are complexes for the fattening of large-horned cattle and strong specialized farms which are fully prepared for converting over to the Lithuanian method. Yes and at many other kolkhozes and sovkhozes the preparations for turning livestock over at a site do not require great material expenditures. At this same Baltic Kolkhoz imeni Kapsukas, the site for accepting the animals and the access roads cost less than 5,000 rubles. In short, it is not too difficult to create the conditions required for carrying out work in accordance with a new method.

However, the RSFSR Minmyasomolprom tenaciously holds onto the old method and opposes the introduction of experience that has been carefully checked, offering up all kinds of excuses. The leaders of the ministry at times refer to the need for additional "coordination" and they ask for excessive resources: give us money, they say, and we will eliminate the shortcomings. In short, they wish to strike a bargain. When the question arose of transferring the procurement functions over to the processing workers, they requested that 50 more individuals be added to the staff of their central apparatus for managing the procurement work in just 24 oblasts. It is noted that this same amount of work is presently being carried out throughout the entire republic, in the RSFSR Skotoprom, by only 11 individuals. The ministry is quite aware that their requirement remains unsatisfied since it is not justified. But indeed they are counting upon this. Similarly the leaders of the meat industry submitted a proposal requesting that 400 farms be turned over to them, but when they came to understand that this attempt to procrastinate would fail, they rejected this notion.

For 1983, the RSFSR Minmyasomolprom plans to deliver 400,000 tons of livestock from the kolkhozes and sovkhozes by means of centralized shipments. In behalf of this figure, they are requesting 530 specialized vehicles. Thus the workload for each vehicle amounts to only 754 tons annually, or two times less than the figure for Lithuania. And many more millions of rubles worth of resources are required for procuring transport vehicles and for constructing a repair base and garages. And what is the result? Are deliberately low results being used as a reference point in the face of considerable material expenditures? Today, even on an average specialized farm, the workload for each livestock cart is the same as for a vehicle (with another trailer) and the vehicle is still used for other work. This then is the result of the departmental approach employed by the leaders of Minmyasomolprom. In behalf of this approach, they are prepared to forfeit the state interests.

Taking refuge behind numerous excuses, the ministry avoids solving the most important problem, leaving it in the stage of coordination and fruitless discussion. Unfortunately, the republic's Gosplan is tolerating this situation and is not utilizing all of its rights for suppressing use of a narrow departmental approach by Minmyasomolprom in carrying out this work.

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## SCIENTIFIC EFFORTS IN BEHALF OF FURTHER AGRICULTURAL DEVELOPMENT IN RSFSR

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 12, Dec 82 pp 11-13

/Article by I. Shatilov, chairman of the Presidium of the All-Russian Branch of the All-Union Academy of Agricultural Sciences imeni V.I. Lenin: "Hand in Hand With Production"/

/Text/ Six decades have passed since a great historical event -- the formation of the USSR. Our multi-national socialist state is providing history with unprecedented and great achievements in the economic, social-political and spiritual development of the peoples of our country.

Our Soviet agricultural science has made great advances. The introduction of its achievements into production operations has become a most important and inalienable part of the party's and state's agricultural strategy during this modern stage.

Scientists of the Russian Federation are participating actively in working out the many-sided problems associated with accelerating scientific-technical progress in agriculture. There are 135 agricultural scientific institutes operating in the republic.

The scientists are directing their efforts towards carrying out the historic plans handed down during the 26th party congress and also the decisions of the May (1982) Plenum of the CPSU Central Committee. They are actively participating in working out the fundamental and applied problems of agricultural production and converting it over to a modern industrial basis. Maximum attention is being given to such vital problems as achieving greater stability in the development of farming and animal husbandry, improving breeding work and conducting a more thorough study of economic problems, inter-farm cooperation and administration.

Special attention is being given to developing scientifically sound zonal farming systems for each oblast, kray and autonomous republic. In the process, improvements must be carried out in the crop rotation plans and crop structure, the soil fertility raises and the yields programmed. For the kolkhoz and sovkhoz specialists, a system of farming is a type of agricultural set of regulations, on the basis of which it is possible to raise the cropping power of the agricultural crops and the quality of the products. At the present time, the farms have commenced introducing this system of farming into production operations. For example, such systems are being mastered successfully in Stavropol Kray. In particular, for the dry regions of the kray where the annual precipitation is 200-300 mm, the scientists have developed a system of farming which calls for the extensive use of soil conservation measures. With the mastering of this system, the grain yields per hectare on many farms in these regions increased during the decade by a factor of 2.3-2.9. The Don zonal NIISKh /Scientific Research Institute of Agriculture/ is actively introducing farming systems into operations in Rostov Oblast. As a result, the average annual gross yield of grain during the past 2 five-year plans has increased by more than 25 percent.

It is gratifying to note that our plant breeding work has reached a point wherein varieties are being created within a brief period of time which differ from the standpoint of quality from their predecessor crops. At the Krasnodar NIISKh, for example, the highly productive Pavlovka and Krasnodarskaya-57 winter wheat varieties have been developed. This year they were regionalized. Pavlovka ripens 4-5 days earlier than Bezostaya-1 and it differs in terms of a raised protein content (15.8 percent), excellent technological quality of the grain and high resistance against brown rust and powdery mildew. The average cropping power is 50 quintals per hectare. Krasnodarskaya-57 successfully combines resistance against brown and yellow rust with good frost resistance and high technological qualities in the grain and it is damaged to only a weak degree by smut diseases. In terms of cropping power, it surpasses Bezostaya-1 by 6.3-7.2 quintals and Partizanka -- by 1.5-4 quintals per hectare.

The highly productive Tarasovskaya-29 variety of winter wheat was created by the Don Plant Breeding Center jointly with the Northern Don Agricultural Experimental Station. It is distinguished by resistance against frosts, drought conditions and lodging and it has high bread-baking qualities. In 1981, it was regionalized in Rostov Oblast. Its potential cropping power -- 80 quintals per hectare.

Under the direction of VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ Academician I. Kalinenko, the Novinka-2 intensive type of winter turgid wheat variety was bred for the very first time in international plant breeding operations. It is characterized by comparatively low growth. It is relatively resistant against lodging. In terms of cropping power it is similar to the best varieties of soft winter wheats and during dry years it even surpasses them. High quality macaroni is obtained from the flour of this variety. The protein content in the grain is 1.5-2 percent higher than the standard (17 percent).

A plant breeder at the Kuybyshev NIISKh, V. Artamonov, developed the Bezenchukskaya-139 plastic variety of durum spring wheat (regionalized in 1980). It surpasses the earlier regionalized Khar'kovskaya-46 in terms of productivity and it is resistant against powdery mildew, brown rust, loose smut (even when artificially contaminated) and shattering and sprouting while standing and in windrows. It is suitable for cultivation under both irrigation and non-irrigation conditions. The maximum yield is more than 60 quintals per hectare.

The first domestic short-stalk varieties of winter rye have been developed. The Chulpan variety, created under the direction of Plant Breeder S. Kunakbayev at the Bashkir NIISKh, was regionalized for the very first time in the Bashkir ASSR in 1979. This variety is being regionalized in 22 oblasts and autonomous republics. It possesses a high degree of winter hardiness and it is resistant against lodging and drought conditions. In terms of cropping power, it surpasses Khar'kovskaya-60, Saratovskaya-4, Voskhod-1 and Vyatka-2 by up to 10 quintals per hectare. Its potential productivity is 68 quintals. This variety is unique for the conditions found in the nonchernozem zone: it endures very well both stagnant water and sharp changes in the weather.

A plant breeder at the NIISKh TsChP /Central Black Earth Belt/ imeni V.V. Dokuchayev, A. Tron, developed the Talovskaya-12 winter rye variety. This is the second short-stalk variety to be regionalized in the USSR. The height of the straw is 95-118 cm. It is resistant against lodging and its potential cropping power is 75 quintals per hectare.

The tritikale Stavropol'skiy-1 variety, intended for intermediate sowings for feed, was created by plant breeders at the Stavropol NIISKh. It furnishes 540-580 quintals of fodder per hectare compared to 305-316 quintals of winter wheat and it surpasses it to a considerable degree in terms of feed value.

Certainly worthy of mention is the new Tsiklon winter barley variety, created by the well known plant breeder at the Krasnodar NIISKh, V. Shevtsov. It is distinguished by a record high cropping power for this crop -- 80-90 quintals per hectare.

Interest is being displayed in the midseason ripening corn hybrid Krasnodarskiy 30/1B, developed at the Krasnodar NIISKh. Its growing season is 110 days. Under usual growing conditions, a well developed ear is formed and when there is abundant nutrition 10-15 percent of the plants furnish two ears. The potential cropping power of the hybrid -- 80-90 quintals of grain per hectare.

The high lysine corn hybrid 304BL, created at the Krasnodar NIISKh jointly with the Kuban Experimental Station of VIR /All-Union Scientific Research Institute of Plant Growing/, possesses a high resistance against root rot and furnishes 80-85 quintals of grain from a non-irrigated hectare and 100-105 quintals from an irrigated hectare, with the protein content of the grain being 10.8 percent, of which 4-4.5 percent (compared to 2-2.5 percent in conventional hybrids) is lysine.

Plant breeder V. Il'in at the NIISKh for the Southeast provided production with the first domestic varieties of smut resistant millet -- Saratovskoye-2 and Saratovskoye-3. Saratovskoye-2, for example, presently occupies 13 percent of all sowings of this crop throughout the country. Its cropping power -- more than 30 quintals per hectare.

Plant breeder V. Pimakhin at the NIISKh for the Southeast named the sunflower variety he created Skorospelyy. It is intended for use in regions of the central black earth belt and the Volga region. Its cropping power -- 30-33 quintals per hectare and its oil content -- 49-51 percent. It is well suited for mechanized harvesting.

At the All-Russian Scientific Research Institute of Sugar Beets and Sugar, plant breeder I. Golevoy created the Ramonskaya Odnosemyannaya-32 sugar beet variety. In terms of productivity and technological qualities, it is on a par with the productive Ramonskaya-100 monospermous variety, but it surpasses it in terms of economic effectiveness of production.

The feed crop plant breeders have provided the kolkhozes and sovkhozes with a fine variety. Ufimskaya-7 alfalfa, developed at the Bashkir NIISKh and intended for field grass cultivation and haying-pasture use, furnishes up to 326-370 quintals of fodder per hectare. Pavlovskiy-16 red clover of the twin-cutting type, developed on a Pavlovsk experimental field of the NIISKh TsChP imeni V.V. Dokuchayev, endures the winter very well, is resistant to drought conditions and makes it possible to obtain more than 400 quintals of fodder per hectare.

The list of innovations could be continued: in all, 200 varieties of agricultural crops, all of which meet the requirements for intensive farming, were created and regionalized during the 10th Five-Year Plan.

Studies associated with the development of effective technologies for producing high quality strong and valuable wheat grain, carried out at the Krasnodar, Siberian, Stavropol and Don NIISKh's, are of considerable scientific and practical importance. They call for the selection of varieties, the genetic potential of which makes it possible to obtain strong grain, optimum systems for cultivating the soil and protecting plants against diseases and pests and organizational-economic measures for harvesting, procuring and storing the crops. As a result of the introduction of this technology in Krasnodar Kray, for example, the proportion of strong and valuable wheat grain was raised to 80-85 percent of the overall volume of such grain sales to the state. Considerable increases were recorded in the production and procurements of strong and valuable wheats in Omsk and Orenburg Oblasts.

Studies concerned with the programmed growing of crops were expanded. In the process, recommendations were made which ensure the reliable implementation of programs on the order of 94-95 percent. The All-Russian Scientific Research Institute of Irrigation Farming developed a mathematical model for the process of forming a crop of irrigated spring wheat. It has been checked experimentally and can be used for controlling the programmed cultivation of a crop on irrigated lands.

The scientists are devoting special attention to the problems concerned with the intensification of feed production. Over the past 5 years, the plant breeders have turned over for state strain testing more than 50 varieties and hybrids of forage crops which meet the requirements for intensification.

Progressive technologies have been developed for the cultivation of the principal forage crops under both irrigation and non-irrigation conditions, methods have been developed for improving haying and pasture lands and plans have been prepared for the green conveyer line for animal husbandry complexes. The structure and optimum dimensions of forage crop areas for farms specializing in the production of milk have been defined. Recommendations have been furnished for the chemical preservation of damp grain and the ears of high lysine corn and for the preparation of haylage from high protein grasses, hay, silage and grass meal. Scientists at the NIISKh TsChP imeni V.V. Dokuchayev have proposed a technology for preparing amide-concentrate additives using an AVM /automatic computer/.

Studies carried out in the areas of animal husbandry and veterinary science were aimed chiefly at improving existing and creating new strains, pedigree groups and types and lines of animals that would be suitable for an industrial technology and capable of providing a good return on feed investments. A new type of dairy cattle was bred in Krasnodar Kray which provides a milk yield of up to 4,500 kg, with a fat content of 3.86-3.92 percent. The creation of highly productive herds of dairy cattle of the Black Variegated and Kholmogorsk strains, with milk yields of 5,000-6,000 kg, has been completed in the nonchernozem zone. Two new lines of Hereford cattle having average daily weight increases of 1,100-1,200 grams have been bred in

Siberia. At 15 months of age, the weight of young bulls reaches 520-530 kg. A new pedigree group of meat and wool sheep of the mountain Correidale strain has been bred by the North Caucasus Scientific Research Institute of Animal Husbandry jointly with the All-Union Scientific Research Institute of Sheep and Goat Breeding. Scientific institutes in the nonchernozem zone have created a Kalinin type of long-wool strain of sheep similar to the mountain Correidale strain. Two new lines of Romanov sheep having fine fur qualities have also been bred.

A flow line technology for the raising of non-calving young cows at industrial complexes is being introduced into production operations on an extensive scale. I is making it possible to obtain elite and elite-record animal classes using low-concentrate rations. A technology for the raising and fattening of young large-horned cattle stock at mechanized sites is also highly effective. Its advantages derive from the fact that the consumption of forage per quintal of weight increase is 8-9 quintals of feed units, with labor expenditures not exceeding 7 man-hours.

Greater emphasis is being placed on studies in the area of all-round mechanization of agricultural production. In the process, special attention is being given to creating multi-purpose and multiple-unit assemblies and wide-cut machines. Scientifically sound recommendations have been developed for raising the effectiveness of use of the machine-tractor pool and this has promoted the mass introduction into production operations of harvesting-transport, plowing and sowing complexes. For the harvesting of cereal grain crops alone, 25,000 complexes and detachments are being employed in the Russian Federation.

The VNIPTIMESKh /Vserossiyskiy nauchno-issledovatel'skiy i proyektno-tekhnologicheskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva; All-Russian Scientific Research and Planning Technological Institute for the Mechanization and Electrification of Agriculture/ proposed a mathematical model for the harvesting process which makes it possible to determine the work rates and the amount of equipment required for a farm, rayon or oblast. Equipment, personnel, fields, grain receiving points and service enterprises are included in the model as accounting elements. The computations carried out using this model for the OPKh /experimental model farm/ of the institute, several kolkhozes in Zernogradskiy Rayon and farms in Peschanokopskiy Rayon in Rostov Oblast are making it possible to complete the harvesting of grain crops in 8-10 days instead of 15.

For the purpose of raising production efficiency, special importance is attached to certain organizational-economic factors -- improving the organization of labor and the system of administration, increasing the material interest of the personnel in the final results. Studies carried out by institutes of the All-Russian Branch of VASKhNIL testify to the fact that the most popular forms for organizing labor, combined with effective methods for issuing material incentives, are making it possible, without any additional expenditures, to raise the productivity of the fields and farms and to reduce product losses. Here we have in mind more extensive use of the brigade-team contract method. Summary data reveals that brigades and teams which employ a group contract method succeed in raising the cropping power of their field crops by 10-15 and labor productivity -- by 15-18 percent, compared to the figures obtained when labor is paid for on a piece work basis.

An example of this -- Millerovskiy Rayon in Rostov Oblast -- where in 1964 79 percent of the arable lands were assigned to teams and brigades which were operating on a group contract basis. They are obtaining 1.2 quintals more grain per hectare, with labor expenditures per quintal of output being 19 percent lower than at collectives which employ conventional labor organization.

Although our Russian scientists have accomplished a great deal towards improving agriculture, nevertheless a great amount of work still remains to be carried out. The large-scale and complicated tasks assigned during the May Plenum require a great amount of research work on the part of the scientists. Science must make a greater contribution towards implementation of the food program and it must exert a more positive influence on production. Strengthening of the link between science and practical work is of special importance. The forms for contacts with production are diverse -- from the creation of scientific-production associations to the introduction of scientific achievements on a cost accounting basis.

The plant breeding institutes must accelerate the creation and introduction of new and highly productive varieties. Prior to 1990, the plant breeders of the All-Russian Branch of VASKhNIL alone must develop and turn over for state strain testing 29 varieties of grain, pulse and groat crops, which in terms of cropping power and output quality will conform to the parameters established by the food program.

Sunflower varieties will be bred which will possess all-round resistance to diseases and pests and which will provide an increase in the yield of oil per hectare of 15-20 percent. The production workers will be supplied with highly germinative varieties and semi-hybrids of sugar beets possessing high sugar yields per hectare, increased by 10-15 percent. New varieties of tomatoes and cucumbers which ripen simultaneously are intended for mechanized cultivation and harvesting.

In addition to chemical agents, an expansion will take place in the use of biological means. By 1990, the use of biological preparations and entomophages will have tripled.

The plans call for the creation of large-horned cattle strains having an annual milk yield of 5,000-7,000 kg and a milk fat content of 3.8-4 percent; during fattening -- with an average daily weight increase of 1,100-1,300 grams, swine -- with an average daily weight increase of 700-750 grams and sheep -- with a clipping of fine wool of 3.2-3.5 kg (in pure form).

A complex of measures for carrying out the tasks assigned by the May Plenum is planned for all of the scientific specialties. A large detachment of Russian agricultural scientists is carrying out work aimed at raising still higher the effectiveness of each hectare of land. It is prepared to do everything possible in the interest of implementing the food program.

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7026
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## REGIONAL DEVELOPMENT

## IMPLEMENTATION OF SCIENTIFIC ACHIEVEMENTS IN AGRICULTURAL PRODUCTION

Moscow TRUD in Russian 26 Dec 82 p 2

/Article by P. Paskar', 1st deputy chairman of USSR Gosplan: "Based Upon Real Opportunities"/

/Text/ Recently a joint and ceremonial meeting of the CPSU Central Committee, the USSR Supreme Soviet and the Supreme Soviet of the RSFSR came to an end in the Kremlin's Palace of Congresses. This meeting was dedicated to the 60th anniversary of the formation of the USSR and during it a speech was delivered by the general secretary of the CPSU Central Committee Yu.V. Andropov. The report by Comrade Andropov constituted a clear and specific program of national party policy for improving the welfare of the Soviet people and for achieving peace.

The implementation of our country's food program occupies a special place among a number of other tasks. In the near future it will be necessary to make a real contribution to the work of ensuring that the Soviet people are continuously supplied with food goods. As one who participated in this ceremonial meeting, I can confidently state that this task, although difficult, is nevertheless attainable.

Science must play an important role in implementing the party's agrarian policies. An intensive search is underway to find more effective forms for linking science with agricultural production.

The following example is recalled. Several years ago an inventory was carried out on all of the seed production farms in Moldavia. The following picture emerged. The production of seed for vegetables in the republic was being carried out by 43 kolkhozes and sovkhozes. The work was being performed in an irregular manner: in some areas good and in some areas bad, but on an isolated basis in all areas. Even large farms were in no haste to obtain advice from the scientists. And thus they lived on: science proceeding independently and seed production proceeding independently.

Obviously, the situation was by no means gratifying. There is a saying among the people: poor seed does not produce a good generation. Is it necessary to prove that the implementation of scientific achievements in seed production influences to a considerable degree the future harvests? Taking this factor into account, a decision was adopted calling for all vegetable seed production work to be concentrated within the framework of a single scientific production association subordinate to the Scientific Research Institute of Vegetable Production and Irrigation Farming.

And what has the result been? Today there are five farms in operation in Moldavia which fully decide the policies to be followed in vegetable seed production work. Guided by the developments of scientists, they have not only raised the quality of the seed but in addition they have increased seed production considerably: five farms are accomplishing more than was accomplished by 43 farms earlier. Accordingly, the production indicators of the republic's kolkhozes and sovkhozes have improved.

In my opinion, this example clearly underscores the importance of finding means for achieving direct interaction between science and practical work and introducing scientific achievements into operations on a high organizational level. Today we are engaged in solving a very great and responsible task -- implementing the food program. This is serious work. And reserves, as mentioned in the speech delivered by the general secretary of the CPSU Central Committee Yu.V. Andropov during the November (1982) Plenum of our party's central committee, "must be found by accelerating scientific-technical progress and by introducing scientific and engineering achievements and leading experience into production operations in a rapid manner and on an extensive scale."

The agricultural science has great potential at its disposal at the present time. The USSR Ministry of Agriculture includes in excess of 800 scientific research institutes within its system. Among them there are approximately 250 NII's /scientific research institutes/ and more than 140 agricultural experimental stations. In addition, studies are being carried out in the sphere of agriculture by scientific institutes of the USSR Academy of Sciences, the academies of sciences of union republics, ministries and departments.

This represents a great force. Unfortunately however, it does not always produce the expected return, nor are all of these organizations performing in an efficient manner. For example, grain crop breeding work alone is being carried out by more than 100 of our scientific research institutes of various types. Meanwhile, a large portion of the country's winter and spring wheat sowings is occupied by varieties which were obtained by four leading scientific research institutes (Krasnodar NIISKh /Scientific Research Institute of Agriculture/, Mironovskiy NII for Plant Breeding and Seed Production for Wheat, the All-Union Plant Breeding and Genetics NII and the NIISKh for the Southeast). A question arises as to the kpd /efficiency factor/ for dozens of other scientific research institutes.

There is still one other typical example. The RSFSR Ministry of Agriculture has its own NII for Potato Production, which in a number of other matters concerns itself with the problems of plant breeding. The institute has been in operation for more than 1 year and is receiving considerable resources from the state. At the same time, varieties are annually being planted on one half of the republic's kolkhoz and sovkhoz areas which were developed back in the 1930's and 1940's.

In analyzing the sources of the food problem, one can find many objective factors which contributed to its development. It is sufficient to state that up to 70 percent of the overall area of grain crop sowings in our country are located in the zone of "risky farming," where there is a shortage of moisture and changeable weather conditions. These two latter factors bring about large fluctuations in the gross yields of grain. And indeed grain is the foundation for agricultural production.

Mention can be made of the considerable reduction that has taken place in the able-bodied population at kolkhozes and sovkhozes in a number of important agricultural regions, a factor which has resulted in a shortage of workers in agricultural production. Situations often arise in which the farms simply have nobody available to harvest the crops, especially vegetables and fruit.

But this is precisely the task of science -- to create effective agricultural crop varieties which will be capable of enduring unfavorable conditions and which will thus provide stable yields, to design new and highly productive equipment and to mechanize and automate production processes, thus making manpower available in the various elements of the agroindustrial complex. It can only be this way and no other.

Experience has shown that a reliable means for implementing scientific achievements in agriculture is that of creating NPO's /scientific production associations/. I have discussed one such NPO at the beginning of this article. It bears mentioning that scientific production associations have enjoyed their greatest development in Moldavia, where they are providing all-round solutions for the vital problems associated with field crop husbandry, animal husbandry, production mechanization and so forth. Special attention has also been given to NPO's in connection with the food program, as a most effective means for the integration of science and agriculture.

What are the advantages offered by scientific production associations? Let us take, for example, a conventional branch institute. Lacking an adequate logistical base, an NII as a rule develops the individual elements of a particular technology or individual innovation and thereafter commences to introduce them into production. The shortcomings of such a system are obvious. For example, a fine undercarriage is created for use by vegetable growers and yet no attachable implements are available for it. It is clear that the kolkhozes and sovkhozes have little need for a very effective undercarriage per se, but they do require an entire grouping of vegetable production machines. In addition, NII developments often suffer by virtue of the fact that they are prepared in isolation from specific production operations and thus require great preparation during the stage of extensive introduction.

NPO's offer considerably greater opportunities. These are large complexes which include scientific-research institutes, experimental stations, design bureaus, experimental plants and specialized farms. As a rule, the associations approve and introduce into operations at the kolkhozes and sovkhozes complete and finished technologies. The works completed by NPO scientists do not require any additional finishing off: the machines have already undergone the required testing and are ready for series production; new plant varieties have undergone testing at experimental stations and specialized farms.

All of these factors promote the establishment of firm business-like contacts between the scientific production associations on the one hand and the zone's kolkhozes and sovkhozes on the other. These contacts are reinforced by mutual obligations which tend to exclude delays in the introduction of innovations. It is sufficient to state that NPO developments are included as a component part of the production and financial plans of farms. The leader of a farm bears responsibility for their implementation in like manner as he does for fulfillment of the production plans for agricultural products.

An acceleration in the "science to production" cycle is being promoted by a new system of stimulation for NPO workers. Today a scientific worker of an association is vitally interested in having his development introduced into operations. Based upon an agreement with the farm and depending upon the economic effect realized, an award is issued which can range as high as the equivalent of 6 months salary. The more effective the innovation, the more rapid its introduction and the greater the award.

The USSR Ministry of Agriculture presently includes more than 30 NPO's of union and republic subordination. Associations are performing successfully in the Ukraine, Siberia, Kazakhstan, Belorussia, Georgia and Uzbekistan. There are more than 20,000 individuals working at these associations, including 5,000 scientific and scientific-technical workers. In 1980 alone, 325 million rubles worth of field crop husbandry products and 271 million rubles worth of animal husbandry products were produced at these associations.

For example, let us take the Moldavian Selektsiya Association. The NPO produces seed for 20 field crops of 48 varieties. The work carried out by the association has made it possible to reduce the period for the propagation of regionalized varieties and hybrids from 7 to 2-3 years. This advantage in time has in turn made it possible to increase considerably the harvesting and sale of grain to the state.

The Sakharnaya Svekla Scientific-Production Association of the USSR Ministry of Agriculture includes 13 institutes and enterprises located in various beet growing zones throughout the country. An industrial technology developed by the scientists for the cultivation of this valuable crop has made it possible to reduce by one half the actual expenses per hectare of sowing.

The role being played by the scientific-production associations is increasing with each passing year. They are becoming a type of coordinating center for the branch, attaching to it a type of developmental trend.

Thus the Uzbek Scientific-Production Association for Horticulture, Viniculture and Wine-making includes 28 different institutes and enterprises. The NPO is a "monopolist" in the growing of planting stock in the republic. Highly productive varieties obtained at the association have already been planted on hundreds of hectares of orchards and vineyards. Moreover, with the exception of the NPO, nobody in Uzbekistan is authorized to grow planting stock.

It is clear that such a concentration of scientific studies in the same hands not only inhibits a dispersion of effort but in addition it makes it possible to pursue purposeful policies in solving the more important tasks associated with agricultural production.

Many other examples could be cited which furnish convincing proof that the creation of scientific-production associations provides the key for overcoming many urgent problems. Nevertheless, there is no basis for feeling that all measures have already been taken and that it is only necessary now to mechanically distribute the experience already accumulated. There are still unresolved tasks.

Thus, when creating an NPO, concern must be displayed for ensuring that the scientific research institutes included in it do not become stepchildren of production, wherein the general director of the association (he is also the director of the NII) is forced to devote more attention to carrying out the production plan than to scientific development and the scientists for all practical purposes perform the functions of technologists and engineers. The farms belonging to an NPO must not be dictators but rather they must assist the scientists in the intensive introduction of leading scientific thought into practical operations.

The time is obviously at hand for expanding the authority of a general director of an association, who at the present time lacks sufficient means for influencing the final operational results of the collective and who at times is left to rely solely upon his own personal authority. This requires that an NPO have its own financial resources, which in turn requires that legal status be given to the scientific-production associations, a status which they still lack at the present time. All of the mentioned problems require thorough analysis mainly by the USSR Ministry of Agriculture and VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/.

The food program contains specific tasks for the USSR State Committee for Science and Engineering, the USSR Academy of Sciences, VASKhNIL, the USSR Ministry of Agriculture and other ministries and departments, with regard to further developing the agricultural science and improving the introduction of its achievements into production operations. Today the successful solving of the problems confronting the agroindustrial complex of the country is greatly dependent upon the manner in which each scientist and agricultural specialist, kolkhoz member and sovkhoz worker fulfill those tasks assigned to them by the party and government, the goal of which is to improve the welfare of our Soviet people.

7026
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## AGRO-ECONOMICS AND ORGANIZATION

### MINISTER PRESENTS STATUS REPORT ON ESTONIAN AGRICULTURE

Tallinn RAHVA HAAL in Estonian 8 Dec 82 p 2

/Article by Vello Lind, ESSR Minister of Agriculture: "Common Interests Of Primary Importance"/

/Text/ The food program was primarily compiled to adjust dietary structure to the changed demands of the population. As the income of workers has grown, so has the demand for meat and dairy products. The fact that a large number of people have moved from the countryside into towns and have changed from producers into consumers of foodstuffs is also of relevance.

At the 1982 CPSU Central Committee's May plenum it was stressed that the agroindustrial complex must develop as a whole, without weak segments. The task is quite complicated since it concerns one of the largest and differentiated production complexes in the USSR. An average of 40.9 million people or 41.7 percent of the workers in the material production sphere were engaged in the production, hauling, processing, preservation, and retailing of agricultural products in the 10th five year period. The agroindustrial complex accounted for 39.3 percent of the national income and for 42.4 percent of the added value created in the national economy.

A scientifically composed target program will naturally help to better manage such a complex and to provide for a more balanced development of all of its components. The most important place in the food program is assigned to agriculture. This is understandable, since the processing branches of the complex receive almost all of their raw material from agriculture. From 1966-1980 agricultural production accounted for 78.4 percent of all the added product of the agroindustrial complex (data by academician V. Tikhonov). Production of agricultural products forms the basis and determines the rhythm for the development of other branches of the complex.

The farmer is often dependent on the weather; he must often take risks. That means that we must accommodate ourselves to this factor. Notwithstanding the weather, our duty is to use land, fertilizers, machinery and labor more efficiently.

How have we done in meeting the pressing goals of the food program this year, what did the year teach us? The rural people worked selflessly, townspeople gave effective help in gathering the harvest. We shouldn't forget that we "inherited" from last year poor seed, unplowed and poorly cultivated fields, that the rains had leached almost one third of the organic nutrients from the soil.

It is especially heartening that the plan for procuring grass feeds was exceeded, and that their quality is much better than last year's. After a long period once again an average of two tons of hay was put in storage per cow. At the same time we finally got the grass seed production underway, something that has slowed down the production of grass feed. All kinds of grass, including the extremely short clover seed has been procured in sufficient quantity. This permits us to hope that haymaking in the kolkhozes and sovkhozes will become more intensive over the next few years, and that protein deficiency that has hindered production the most will be reduced.

This year gave us new experiences in overcoming protein shortages. Thanks to gigantic exertions we succeeded in producing the world's best winter and summer rape seeds and to propagate them so that next year we could already grow this extremely protein rich crop on 8,000-10,000 hectares. But we must rapidly procure the necessary seeders, seed driers, oil presses, etc. that are necessary for rape cultivation.

Grain yield per hectare--28.6 quintals--was the third best in the republic's history. But the potato harvest--155 quintals per hectare--does not satisfy us at all, it was reduced by frost, the rains in June and the later drought. Although we gathered 45 percent more feed for the winter than last year, the supplies do not quite meet the needs of the livestock. Calculations show that in order to meet the 1983 tasks for selling meat and milk to the state we would need more concentrated feed. This wish is completely in harmony with national interests, considering our quite low feed use per productive unit. Unfortunately, even in a year with good weather the differences between the superior and the weak collective remained large. The 30 best enterprises have grown 2468-1616 feed units per animal for the winter. On the other hand, the last 30 have supplies that amount only to 599-856 feed units. This includes the traditionally lagging Kaagjarve, Tostamaa, Erra, Kahala, Orava, and Vohandu sovkhozes.

There are many enterprises where even in difficult years good harvests are gathered and animal productivity does not decline. We have for a long time propagated the experience of the "Estonia," Paala, Vaike-Maarja, and "Vambola" kolkhozes, of the Vinni exhibit sovkhoz technikum, etc. Their success has been due to a considerably stronger material base and better work management than in the weaker enterprises. Usually the stronger ones have succeeded in better satisfying the social requirements of the rural population, they can recruit more capable specialists and other personnel. A search has been made for more energetic managers for the weak enterprises, but the situation is slow in changing. Notwithstanding the importance of the initiative and consistency of the managers we must also admit that there are insufficient material means to provide for normal development of all enterprises.

In order to meet the feed deficiency with in-house production alone their production would have to increase by 40-50 percent over current levels in the next 8 years. Considering the results of the best workers it seems that the achievement of such results over such a short period will be extremely difficult. The entire agroindustrial complex must search for various ways to solve the problem.

It is most important that the productivity of the farm laborer be raised sharply; this requires more high-capacity implements. Unfortunately, the farm machinery industry has not been able to manufacture all the machines necessary to comprehensively mechanize farm labor. To be sure, in recent years the supply of tractors and combines has improved markedly. But the kolkhozes and sovkhozes are insufficiently equipped with various machinery, such as plows for stony fields, spreaders for spot application of fertilizers, swamp cultivators, grass seeders, machines for cultivating potatoes and other root crops, and many others. Their lack greatly hinders transition to intensive agriculture.

The strong industrial potential of our country is quite capable of satisfying the needs of the agroindustrial complex completely. Apparently, the constructors of machines, tools, and implements must better learn of these needs and take them into account. This is the only way to overcome the lack of some very essential productive means. Often the quality of machines and implements delivered to agriculture is low, so that much time has to be spent in maintenance facilities before they can be put to the field. For this reason even existing tractors are not used to their full capacity. I would like to see the machine building industry rapidly improve the technical level, quality and reliability of tractors, combines, grain and livestock raising machines and implements, as has been stressed in the USSR food program.

To produce considerably more feed we would need more mineral fertilizers, especially nitrates. As long as the structure and composition of mineral fertilizers does not conform to the requirements the effect of the used quantities will remain low, and we will make unneeded expenditures.

In many enterprises the main reason for low feed quantities lies in the lack of operators, and for this reason work is done belatedly and carelessly even in years with favorable weather. Some work is left completely undone. To rid ourselves of all known violations of agrotechnical requirements another 4000-5000 operators should be allocated to agriculture.

Of course, the fulfillment of such a wish is complicated. It is primarily tied to the social development of rural life, something that came under close scrutiny at the CPSU Central Committee plenum in May 1982. Unfortunately, agricultural enterprises cannot appreciably speed up the social development of rural life with their own resources. For example, the construction of residences and recreational buildings is limited by several factors--our main construction organization, "Eesti Kolkoosiehitus" does not have the resources, agriculture cannot obtain needed construction materials in sufficient quantities. The building of one-family homes with the help of favorable credit has become more and more popular, but its expansion is limited by lack of construction materials. And yet life has shown--someone who builds himself a house in the country is the most reliable and also valuable worker, whose children also usually want to follow the path of their parents. The enterprises are also concerned that there are insufficient construction materials for residence and production facility maintenance.

Greater assistance form other branches of the national economy in meeting the social requirements would help to increase the reputation of rural life and would increase the desire of townspeople to move to the country. At the CPSU Central Committee May plenum the need to eliminate the social differences between town and country was stressed. For example, it is quite understandable that a country person likes to travel from time to time to the city to visit the theater, go to the concerts or some other event. It seems that those in charge of supplying enterprises with buses have ignored that. Only 30 buses have been dedicated for all of 1983, 10 of them are vans. This means that an enterprise will receive a new, 24 seat bus every 15 years. To be sure, some managers have by their initiative obtained old buses from bus depots, but these often break down and require constant maintenance. I.e., there are buses, but in their distribution the peculiarities of rural life are ignored. I would also like to see that kolkhozes and sovkhozes would be able to purchase cars for specialist travel from the "Niva" marketing fund, something that has been done in the LiSSR and the LaSSR. The majority of passenger cars in the enterprises is now depreciated, in 1983 there will be even fewer new ones distributed than this year.

Agriculture is and will remain an important raw material base whose more intensive development depends not only on the farm worker but also on many other production branches. Unfortunately, it is a fact that some branches have developed with only self-interest in mind. For example, let's take the establishment of large, specialized concentrated feed factories. This immediately caused a rise in transportation requirements. Now that fuel has become a considerable factor in the development of an enterprise the hauling of concentrated feed from afar causes difficulties. It is the agricultural enterprise that suffers, having to haul the concentrated feed from a distant factory with its own transportation, if it wants to do that at all. Unfortunately, the enterprise has no choice--in spite of difficulties it must produce milk and meat. We must admit that the resources of the society are large, but they are still limited and cannot be wasted in any branch of the economy. With this in mind we should consider how valid are our concepts of the need to build large specialized concentrated feed factories, meat and dairy combines. It is just as important that the internal specialization of kolkhozes and sovkhozes be analyzed and wisely managed. With the establishment of large enterprises transportation volume has greatly increased, people have to be transported to work far from home.

Since last October all rayons have their agroindustrial collectives whose work can be managed on the basis of the experiences in the Viljandi and Parnu Rayons. They have attempted to liquidate many a contradiction between the segments of the agroindustrial complex, but the results are modest. Some staffs of enterprises belonging to the agroindustrial collectives do not consider common goals. Agricultural enterprises are forced to develop their production with the tools and resources provided by other branches. Since every branch serving agriculture is distributing resources and services that are in short supply, criticism and complaints can mean that we might be forced to go without them in the future. It would be good if every branch of the agroindustrial complex would, instead of talking of helping the farmer, supply enterprises with needed amounts of machinery and resources without which production cannot be intensified. It is of primary importance that all branches of the agroindustrial complex be joined into a system where common interests would be of primary importance.

The plan for the economic and social development of our republic in 1983, discussed last week at the 9th ECP Central Committee plenum and at the session of the ESSR Supreme Soviet, poses intensive, but quite realistic tasks to the agroindustrial complex, provided that the needed resources are obtained. Of course, plan fulfillment requires common efforts by all agricultural workers, a constant search and use of reserves. In the next year and in future years the most important consideration for crop raising will be an increase in soil fertility through the use of organic fertilizer. Three months of shock work, prompted by a call by the Kohtla-Jarve agroindustrial collective showed that in this area there are many reserves waiting to be used. We are continuing to expand the growing area of protein-rich feeds. The most important task for the livestock breeder is better preparation of feeds and their rational use. All enterprises should, replying to the appeal of the kolkhoz imeni V. Kingissepp in Tartu Rayon, develop socialist competition and strive for maximum production from the livestock over the winter months.

9240
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## ESTONIAN FARM LEADERS WISH FOR MORE AUTONOMY

Tallinn RAHVA HAAL in Estonian 11 Dec 82 p 2

/Article by Evald Jogis: "Man Wants to Harvest What He Has Sown" Do the Outlying Areas and Departments of Enterprises Not Require Greater Care? Opinions of the Managers of the Tartu Exhibition Sovkoz"/

/Text/ How to manage large kolkhozes and sovkozes?

This problem has been always acute, since the larger the enterprise the more important the system of management and labor organization.

It is quite simple to call to the round table experts with varying views. One says that it is no longer possible to totally centralize the management of a large enterprise, that there should be well developed and equipped territorial departments that themselves are already the size of former average or even large kolkhozes.

We can find one who argues that extremely large enterprises be divided into two independent ones. He finds support usually when the discussion involves an enterprise with a unfavorable territorial shape, with widely dispersed production zones. In other instances he will come out of the discussion second best.

After some search we could find for the roundtable a manager of a large enterprise who not very convincingly puts forth the argument that the territorial departments hinder the enterprise, prevent a rational use of labor and machinery--so that the productive units should be enterprise-wide, so-called functional. And of course there is always the wise man who says that everything depends on the situation, that various combinations of systems are possible, etc. Let us then not rush to judgment, since a concrete decision can be made only according to the objective productive condition of each enterprise, they depend also on the initiative of the personnel.

But let us nevertheless participate in such an improvised discussion. In the spring the republic Ministry of Agriculture proposed that the Tartu exhibition sovkhoz implement the brigade task system in its grain growing. Whatever the ministry's intention, the enterprise understood this to mean that such a contract method, in itself progressive, would in the specific case mean the separation of one field culture from the common management and labor organization system, that it would be necessary that an enterprise-wide system be organized and that the principles of centralized and localized management would come into conflict.

In its reply to the ministry the enterprise rose to defend its management structure, the departmental system developed some decades ago, and did that quite convincingly. Recently we continued in the same vein in the office of deputy director Vilmar Kraak, where we were joined by director Heino Parik, chief agronomist Eino Harm, department chiefs Toivo Talango and Olev Poldma. In short, the enterprise consists of four specialized departments that deal with both grain growing and livestock raising. They have their assigned land, machinery, they have their own production plans and salary funds. And, as usual, every operator has his basic area of concentration--one grows potatoes, one plants grain, one seeds fertilizers, one works in the fall on a combine, one on the grass cutter, etc. The department sows and the department reaps, the department feeds its animals and makes sure that there are people in the barn and on the machines.

The enterprises compete with each other, the responsibility for labor results is reflected in the bonus system. The concentration of production in the departments is sufficient to assure rational use of the machinery.

What are then the basic differences with the contract system? Ask the men of the Tartu sovkhoz. And there really aren't any, if one does not consider various internal possibilities for improving management and remuneration according to the practice of the contract method. There was agreement that in a large enterprise the department should be the primary link in production. This was said to provide the opportunity to best use the primary means of production, the soil, to provide selectivity and flexibility in field tasks, to help check on the quality of the work. This is the most general story. Of course, in the Tartu sovkhoz as elsewhere some work is managed on an enterprise-wide basis, the departments help each other and neighboring enterprises as needed.

Although in the Tartu sovkhoz there was a rush to prove the necessity of territorial departments in a large enterprise from the aspect of management, there is apparently no need to repeat all standpoints. There is, however, another interesting aspect that director Heino Parik mentioned. "Our people want to harvest what they have sown."

This is accomplished in the Tartu sovkhoz by permanent departments. In a wider perspective the difficulty seems to lie in the fact that in a large enterprise a person seems to become alienated from his work, the fruits of his labor, his colleagues. The internal ties of the collective loosen, since there is no practical opportunity to gather all the labor force together, to acquaint people with one another. Homes and jobs are often tens of kilometers apart. The large figures reflecting the results of the collective's labor become abstract. All of this is ultimately reflected in man's attitude toward work, his feeling of concern. And when training starts to lag for the same reason, then...The manager of the best collective will agree that this is problem number one.

In the Tartu sovkhoz the opinion echoed that one possibility for shaping the work collective is precisely the strengthening of the departments, the improvement of work done in the primary production sector.

The department directors of the Tartu exhibition sovkhoz found that their collectives have maintained their local patriotism, they are interested in the results of the department's socialist competition, and participate in common events. There are unique traditions. Olev Poldma, chief of the Vorbuse department talked of meetings before and after seasonal work, of calculating competition results, of St. John's Eve and of children's carnivals, of New Year's Eve celebrations and other events that include presentations by local amateur groups. Excursions are made, training conducted. Party and several other kinds of social organizations function in the departments. It is difficult to say from a distance whether little or much has been done, whether things could be different in the daily contacts between the departmental specialists and their subordinates. I have previously heard good words about Toivo Talango, chief of the Ilmatsalu department, who is still a young man but has for 17 years managed his production unit successfully. On the other hand, things have recently not gone as well in the, say, Saage department. Much depends on the specialists. The department is a kind of training facility for personnel, from which the more capable ones are promoted to higher positions. At the same time the opportunity for choice is limited, since in a typical sovkhoz the salary of a mid-level manager is less than that of those managed. To date the farmer is not satisfied with the quality of specialist training, especially with leadership qualities and inter-personal communications, nor does he like the general method of personnel management. All of this has an effect in the primary production segment where not only work but also educational questions must be solved.

But still a department that is more or less well managed lives a complete life; it celebrates its weddings, marks the holidays of its nation, sends its veterans to the last resting place, censures its drunkards, admonishes bad marriages, observes its children, cultivates its garden, markets its products and occasionally complains about the center that is felt to be ignorant of local concerns. The department should pay more attention to the environment of the workers, was the opinion in the Tartu sovkhoz. To be sure, the opportunities for this are somewhat limited. The production unit, for example, was unable to prevent the closing of the school which meant that parents and children left the area nor could it change the construction policy that for a while basically recognized only the central settlement. The department usually requires help in improving local trade and services. But how a person lives, how he uses the enterprise's residence or how well he keeps his surroundings are difficult to observe from the center. And here, it was maintained in the Tartu sovkhoz, things are far from good. But the general culture, order in the residence, etc. greatly influences labor culture. More common labor should be organized, but the departments should also be given the means to perform urgent maintenance, provide for cleanup work and other activities, so that life in the departmental center and also the outlying areas would be content and happy, and no feeling of neglect would arise. A note remained from the discussion in the Tartu sovkhoz: "The animal barns are repaired and polished, there are all kinds of inspections, but who inspects people's residences...?" Food for thought! It cannot be denied that if there are cuts in the maintenance projects of an enterprise then often the sufferer is human environment or even living conditions in the deepest social meaning of the word. And this happens unfortunately mostly in the distant corners of the enterprise.

Should there not be discussion about means to strengthen and make more effective the bases for self-management of productive units, about how to regulate the relations between rights and obligations, about implementation of the progressive steps of collective labor contracts as recommended by the CPSU Central Committee plenum this May which are in no conflict with the principle of territorial integrity that we stressed above? After all, it is most important that no matter in what way labor is managed or organized the social needs and interests of the workers are considered and that means are provided to shape life styles and attitudes to work.

9240
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# OFFICIAL INTERVIEWED ON CEMA COLLABORATION IN FOOD SUPPLY

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 12, Dec 82 pp 34-38

[Interview Comrade Belane Kadar, deputy secretary of CEMA: "An Important Area of Cooperation"]

> [Text] In connection with the fact that the 36th meeting of the CEMA session adopted a decision concerning the consideration at the next meeting of comprehensive measures for cooperation in order to improve the supply for the population of the CEMA countries with food products, the main editorial staff addressed the following questions to the deputy secretary of the CEMA, Comrade Belane Kadar:

[Question] What is the essence of the food problem in the CEMA countries?

[Answer] Communist and workers' parties of the sister countries at congresses held in 1980-1982, displaying concern for the well-being of the workers, devoted special attention to the problem of supplying the population with food products. If one takes into account that today from one-half to three-fourths of the commercial supply of consumption by the population in these countries is formed from agricultural products and products processed from them, one can understand the immense significance that is attached to developing the food complex and its central unit--agriculture.

It is precisely toward this that the food programs adopted or being developed in the CEMA countries are directed. They earmark comprehensive solutions to problems related to increasing the production of food and delivering it to the consumer. Clear examples of this are the decisions of the May (1982) Plenum of the CPSU Central Committee and the USSR Food Program for the period up to 1990 which was adopted at the plenum. These documents met with a great deal of interest and were studied in other CEMA countries.

As was pointed out at the 36th meeting of the council session, questions of improving the supply of food products for the population are of an international nature and can be resolved most efficiently with close cooperation among the CEMA countries. Therfore the decision concerning the development of comprehensive measures for cooperation in order to improve the supply of food products for the CEMA countries was received with unanimous approval. This is called upon to raise the economic and scientific-technical ties among the CEMA countries to a new and qualitatively higher level.

Let us recall that in recent years the CEMA countries, taking advantage of their opportunities and relying on the advantages of international socialist division of labor, have achieved appreciable success in increasing the production and consumption of food products. The gross agricultural output on the whole had increased by 54 percent in 1980 as compared to 1960, including grain--by 58 percent, meat--1.8-fold, milk--1.5-fold and eggs--2.3-fold. In terms of the calorie content of the food products the CEMA countries have reached and surpassed scientifically substantiated physiological norms. And today the task consists in improving the structure of nutrition by increasing the proportion of products that contain protein of animal origin (meat, meat products, fish, milk and dairy products) and also vegetables and fruits, and reducing the amount of those products with a large quantity of carbohydrates.

[Question] How is the cooperation developing at the present time and what are the plans for the near future?

[Answer] As we know, economic and scientific-technical cooperation in the branches of the agro-industrial and food complexes within the framework of the CEMA is carried out on the basis of the decisions of the Comprehensive Program and the DTsPS in the area of agriculture and the food industry.

In order to implement these documents the CEMA countries have signed 20 multilateral agreements in the area of the food industry and 11 for economic and scientific-technical cooperation.

In the area of agriculture these include, in particular, agreements for international specialization and mutual utilization of the genetic backgrounds of large horned cattle of the black spotted breeds, meat breeds and breeds of hogs for hybridization, and also an agreement for scientific-technical cooperation in corn selection, an agreement for producing equipment for repair and technical servicing of agricultural equipment, a general agreement for cooperation in the assimilation of virgin lands through the creation of new state farms in the northern part of the Gobi zone of Mongolia, and so forth.

In the area of the food industry a general agreement has been signed for cooperation in the improvement and creation of new technology and technical equipment for fresh water industrial fishing as has an agreement for scientific and technical cooperation to improve existing and create new kinds of high-quality food products.

One should take special note of the contracts and agreements for cooperation in improving technology and technical equipment for comprehensive processing of meat, milk, oil-bearing seeds and sugar, the agreement concerning containers and packaging for the food industry and a number of others, whose implementation envisions direct participation of related branches as well, such as machine building and chemistry. On the basis of the requirements of the food industry, new and improved models of machines and equipment will be developed, which will then be produced by the countries on the basis of specialization and cooperation.

Taking into account the fact that in carrying out the tasks in the area of agriculture and the food industry a large role will be played by branches of the machine building, chemical and processing industries, transportation, industrial construction and also enterprises of the sphere of services and trade, it is necessary to take a comprehensive approach which provides for an optimal combination of biological, technical-technological and organizational-economic conditions.

Thus a solution to the food problem objectively requires a higher level of development of the branches that constitute the national agro-industrial complex and also fuller utilization of all possibilities and advantages of specialization, cooperation and integration of the CEMA countries in the agro-industrial sphere.

Based on this, the session of the CEMA adopted a decision to develop, taking into account the DTsPS, comprehensive measures for cooperation whose implementation will make it possible for each country to significantly improve the supply of food for the population. The CEMA secretariat was made responsible for the preparatory work with the help of experts from the various countries.

The CEMA executive committee, having considered the report from the permanent CEMA commission for cooperation in the area of agriculture concerning the work for implementing the decrees of the session and the executive committee and its further activity, determined: to consider the commission's most important task to be participation and assistance in development, taking the DTsPS into account, comprehensive measures for cooperation on improving the supply of food products for the population of the CEMA countries.

The tasks of other agencies of the council were also more clearly defined--the permanent commissions for cooperation in the areas of machine building, the chemical industry, the food industry, transportation, construction and also the international economic organization Interkhim. This has to do with their contribution to the development of cooperative measures directed toward satisfying the needs of agriculture for modern technical equipment and other equipment, mineral fertilizers, chemical means of plant protection, feed supplements and vitamins. Their suggestions were also submitted to the CEMA council for cooperation in the area of planning activity.

Thus the council's executive committee approved the comprehensive nature of the mutual assistance in the given area and determined the agencies of the council which were called upon to participate in the preparation of the measures.

[Question] What kind of work is being done by the CEMA secretariat to implement the decisions that were adopted?

[Answer] Guided by the decisions of the session of the executive committee, the CEMA secretariat has actively started to work. A temporary working group was created under the leadership of the deputy secretary of the council, the sequence and time period for conducting the work were determined, and they were approved by the CEMA secretary. They made a list of the main kinds of agricultural and food products from which they are to conduct an analysis of the condition and the prospects for the development of their production and export, and proposals were developed for comprehensive cooperative measures. In a short period of time the CEMA secretariat prepared:

considerations for the development, taking into account the DTsPS, comprehensive measures for cooperation in order to improve the supply of the population of the CEMA countries with food products;

an analysis of the condition and prospects for the development for the production of the main food products in the CEMA countries and a table of materials for them.

The plan of comprehensive measures was considered at a conference of experts in agriculture and the food industry of the CEMA countries and also at meetings of the corresponding permanent commissions.

The central task of the plan is to provide for increased production of grain, feeds, meat and meat products, milk and dairy products, fish, vegetables and fruits. It will be carried out on the basis of increasing production efficiency in all branches of the agro-industrial complex, and increasing the productivity of agricultural crops, livestock and poultry, and also other measures of an intensive nature.

Priority is given to those which are directed toward increasing the gross yields of grain, especially forage grain. A successful solution to the grain problem and also the development of the mixed feed industry will open up the possibility of further advancing all branches of animal husbandry and rapidly increasing the production of meat, milk and products that are processed from them. One of the most important conditions here is a stable feed base (highly productive meadows and pastures, coarse and juicy feeds, feed supplements and so forth).

The second aspect of the plan is a system of measures for economic and scientific-technical cooperation which is directed toward eliminating losses, improving quality and raising the degree of processing of food raw material.

The third direction includes comprehensive measures for increasing and qualitatively improving the material and technical base for agriculture, the food industry and trade. The basis here is a system of machines and equipment that makes it possible to provide for an increase in labor productivity which would make it possible to compensate for the eflux of labor force from agriculture and achieve an increase in the production of agricultural and food products.

The plan has been considered by all branch permanent commissions of the CEMA that are participating in its development, and has now been transferred to the committee for cooperation in the area of planning activity. After it is refined and completed the comprehensive measures for cooperation to improve the supply of the population of the CEMA countries with food products will be presented for consideration at the 37th meeting of the CEMA session.

In conclusion I should like to note that the implementation of comprehensive measures that are now being developed within the framework of the CEMA will be a powerful new impulse for the development of multilateral cooperation in the branches of the agro-industrial complex. It will contribute to increasing production, improving quality and reducing losses of foodstuffs, and will play an important role in providing scientifically substantiated norms and the structure of nutrition of the population of the CEMA countries.

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## AGRO-ECONOMICS AND ORGANIZATION

# PROSPECTS FOR AGRO-INDUSTRIAL COMPLEX IN THIRD YEAR OF FIVE-YEAR PLAN

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 1, Jan 83 pp 3-10

[Article: "APK in Third Year of Five-Year Plan"]

[Text] The first two years of the Eleventh Five-Year Plan have come to an end. These were years of difficult labor on the part of our people to implement the decisions of the 26th CPSU Congress. A large event of truly historic significance were the decisions of the May (1982) Plenum of the CPSU Central Committee, which approved the country's Food Program for the period up to 1990. This is clear evidence of the consistent course of our party and its concern for the good of the people and for the further improvement and bringing together of living conditions in the city and the country. The program envisions large-scale measures for increasing the efficiency of agriculture and coordinating the development of all branches of the APK. Considerable amounts of capital investments are being used for these purposes. All this have given a new impulse to work in rural areas and the implementation of one of the most noble tasks of the society--increasing the production and improving the quality of food products.

The past two years of the five-year plan have not been easy for agriculture. In a number of regions of the country they have been characterized by fairly unfavorable weather conditions. In spite of this, many kolkhozes and sovkhozes coped successfully with the assignments set for these years for the production and procurement of agricultural products, and all agriculture took a significant step forward in its development. Economic and production ties of all branches of the agro-industrial complex became appreciably stronger, joining them together with a single task--the organization of reliable supply of foodstuffs and agricultural raw material for the country.

In the second year of the Eleventh Five-Year Plan the gross agricultural output in comparable prices increased by 4 million rubles or 3.4 percent as compared to 1980. There was also an increase in the production and gross yields of many agricultural crops. Throughout the country there were reports from grain growers of the Uzbek SSR, Krasnodar and Stavropol krays, Kustanay, Poltava, Kharkov, Ulyanovsk and a whole number of oblasts, krays and republics concerning the successful fulfillment of plans and socialist commitments for the sale of grain to the state. Farmers of the Azerbaijan SSR again gladdened the country by successfully fulfilling socialist commitments for the sale of grain, grapes, raw cotton, vegetables and other agricultural products. Workers of the cotton growing republics provided for large yields of raw cotton with a considerable improvement in its quality. Grape growers of the country fulfilled their socialist commitments honorably, having increased the production and procurements of this valuable product. There was an appreciable increase in the production of potatoes, vegetables, eggs and a number of other products. In 1982 there were considerably more procurements of groat crops, sunflowers, sugar beets and feeds, and the productivity of animal husbandry increased.

At the November (1982) Plenum of the CPSU Central Committee and the session of the USSR Supreme Soviet held on 23-24 November 1982 they gave a high evaluation to the work of agricultural workers and workers of the country's entire agro-industrial complex. The stronger material and technical base contributed greatly to the positive results of the work of the APK. In 1982 alone about 45 billion rubles' worth of capital investments were made in the development of branches of the APK, of which 24 billion rubles were used for construction and installation work. In order to equip and re-equip enterprises of the food, meat, fish and milling industry, trade and public catering, in 1982 the production of technological equipment was increased. The deliveries of it amounted to 40 million rubles more than was envisioned by the plan.

But in 1982 individual branches did not completely fulfill the assignments established by the plan for the delivery to agriculture of technical equipment, means of chemization and a number of other material and technical resources for the introduction of irrigated land. Along with the unfavorable weather conditions, this also had a certain effect on the results for 1982. Both agriculture and other branches of the APK fell behind planned assignments in terms of a whole number of indicators in the first two years of the five-year plan.

The session of the USSR Supreme Soviet approved planning assignments for branches of the national economy for 1983. Workers of agriculture and other branches of the APK will have to struggle for new and higher goals for the production of products in 1983 and the organization of continuous supply of foodstuffs and agricultural raw material for the country. All branches of the APK are even more oriented toward achieving the best final results. The plan for 1983 has devoted special attention to balanced and proportional development of the branches of the APK and the elimination of bottlenecks that impede accelerated growth of the production of food products.

Proportionality in the development of the branches of the APK is largely determined by capital investments. Therefore essential priority in their use is given to the food and meat and dairy industry, tractor and agricultural machine building, machine building for animal husbandry and feed production, and the production of equipment for the food, meat and dairy and mixed feed industry. The production of mineral fertilizers and chemical means of plant protection are to be developed at accelerated rates.

The volumes of capital investments and the priorities for their use can be seen from the following figures (millions of rubles):

| | 1981 | 1983 (plan) | 1983 in % of 1981 |
|---|---|---|---|
| All branches of APK | 44,525 | 46,885.6 | 105.3 |
| Including: | | | |
| Agriculture in the entire complex | 36,737.4 | 37,819.6 | 102.9 |
| Production of fertilizers and means of plant protection | 1,715.3 | 2,658 | 154.9 |
| Food industry | 908.7 | 1,103 | 121.4 |
| Meat and dairy industry | 637.0 | 771.0 | 121.0 |
| Microbiological industry | 194.9 | 310.4 | 159.2 |
| Tractor and agricultural machine building | 844.2 | 1,077.5 | 127.6 |
| Machine building for animal husbandry and feed production | 247.6 | 311.7 | 125.8 |
| Production of equipment for the food, meat and dairy, and mixed feed industries | 82.0 | 155.9 | 190.1 |

Of the sums allotted for agriculture, in keeping with the decisions of the May (1982) Plenum of the CPSU Central Committee and the tasks earmarked by the Food Program, considerable sums are being used for the construction of residential buildings and facilities for cultural and domestic purposes. In 1983 7,694,000,000 rubles have been allotted for these purposes, which is 1,330,000,000 rubles more than was actually assimilated in 1981. This will make it possible in 1983 to introduce residential buildings with an overall space of 25.4 million square meters as compared to 22.2 million square meters in 1981. Just from state capital investments, in 1983 it is intended to introduce preschool institutions to accomodate 130,000 and clubs to accomodate 121,000, an increase of 28,000 and 18,000, respectively, as compared to those introduced in 1981.

There will be a 15-percent increase in capital investments used for the construction of facilities for feed production and feed preparation, and the construction of warehouses for mineral fertilizers will increase 1.3-fold. A considerable amount of money will be used for improving the storage of agricultural products and constructing facilities for storing and repairing technical equipment.

An essential change is being made in the direction of capital investments for reconstruction and technical re-equipment of existing facilities. It is intended to invest 4.7 billion rubles for these purposes on the kolkhozes and sovkhozes, which is 0.8 billion rubles more than was utilized in 1981. The proportion of capital investments used for reconstruction will increase from 19 percent in 1981 to 23 percent in 1983.

The plan envisions considerable concentration of capital investments on start-up objects. It is intended to reduce incomplete construction in agriculture from 12,887,000,000 rubles in 1981 to 10,814,000,000 in 1983 and to place it on the level of the normative. For each ruble of capital investments alloted for the branch "agriculture," it is intended to introduce production capital valued at 1.07 rubles as compared to 0.99 rubles which were actually invested in 1981.

In 1983 it is intended to invest 7.6 billion rubles in land reclamation and agricultural assimilation of land. With these funds it is intended to introduce 667,500 hectares of irrigated land and 714,600 hectares of drained land, and also to flood about 4 million hectares of pastures in arid and mountainous regions of the country. On an area of 940,000 hectares it is intended to conduct work for restructuring irrigation systems and improving their amelioration conditions. Almost 65 percent of the newly introduced irrigated land will be irrigated with sprinklers of a new generation such as the Kuban', Fregat and modernized Dnepr machines. Special attention is being devoted to making sure that the construction of land reclamation systems is carried out in combination with production and nonproduction facilities.

In 1983 the fleet of tractors, trucks, combines and other agricultural equipment in agriculture will increase. The kolkhozes, sovkhozes and other agricultural enterprises will receive about 400,000 tractors, 285,300 trucks, 120,400 grain harvesting combines and other agricultural machinery worth a total of more than 6 billion rubles.

The plan envisions increasing the deliveries of highly productive new technical equipment such as self-propelled corn and potato harvesting combines, and machines with large capacities for applying mineral and organic fertilizers to the soil. The kolkhozes and sovkhozes will have enough machines for protecting the soil from wind erosion. Deliveries of machines and implements for operation with K-700 and T-150 tractors will increase. But the demand for individual kinds of technical equipment and agricultural machines is still not being fully satisfied, which makes it necessary to utilize existing machines and implements better and to achieve an increase in the shift coefficient of their operation.

The growing fleet of tractors, combines and other agricultural machines and better utilization of them make it possible to conduct the main work at optimal agrotechnical times. The seasonal load per one tractor in 1983 will decrease to 83 hectares as compared to 87 hectares in 1980, and for grain combines--to 152 hectares as compared to 174 hectares in 1980. The consumption of electric power in agriculture is to be increased to 127 billion kilowatt-hours in 1983.

Taking into account the deliveries of technical equipment and the increased use of electric energy, energy capacities of agriculture will increase to 700 million horsepower in 1983, and the energy availability for the labor of one worker on the kolkhozes and sovkhozes will increase to 33 horsepower as compared to 25.6 horsepower in 1980. The supplies of motor fuel allotted according to the plans make it possible to provide for the performance of all necessary work with the observance of conditions for economy and limits.

The plan for 1983 envisions delivering to agriculture 22.8 million tons of mineral fertilizers translated into terms of 100 percent nutritive substances. Here we have in mind using most of the increase in mineral fertilizers for grain and feed crops. Deliveries of chemical means of plant protection will increase to 551,000 tons as compared to 514,000 tons envisioned in the plan for 1982.

Capital investments and other material and technical resources allotted to branches of the APK will make it possible to increase their production potential and increase capacities for processing agricultural products. For example, the increase in the capacities for processing sugar beets will amount to 100,000 quintals per day, for processing vegetables and canned fruits--more than 400 million conventional cans, and meat--465 tons per shift. The needs of the processing branches of the APK for highly productive technological equipment will be more fully satisfied.

The gross output of farming in comparable prices in 1983 should increase by 13 percent as compared to the average annual production in 1976-1980. This is a difficult task. But everything necessary for its fulfillment exists. As was noted above, the material and technical base will be considerably strengthened, the area of reclaimed land will increase, and deliveries of mineral fertilizers and chemical means of plant protection will increase. All this makes it possible to organize a struggle for considerably increasing the production of farming products. In keeping with the proposals of the kolkhozes and sovkhozes, the volumes of production of farming products are earmarked as follows (millions of tons):

| | Average for 1976-1980 | 1983 (calculated) |
|---|---|---|
| Grain | 205 | 238 |
| Raw cotton | 8.9 | 9.2 |
| Sugar beets | 88.7 | 96.1 |
| Sunflowers | 5.3 | 6.6 |
| Flax fiber, thousands of tons | 394 | 486 |
| Potatoes | 82.6 | 89.0 |
| Vegetables | 26.3 | 29.8 |
| Fruits and berries | 9.4 | 11.2 |
| Grapes | 5.6 | 7.5 |

The increased production of farming products is completely related to improved utilization of the land--our main wealth. In 1983 there will be 257.9 million hectares of intensively utilized land in agricultural circulation, which is 7 million hectares more than in 1981. Practically all of the increase will come from hayfields and pastures after work for radically improving them. Thus the increase in the production of grain, industrial and other crops must be provided on the same areas as were allotted for them previously, that is, as a result of increased productivity. A radical changeover to intensive factors of growth is one of the main features both of the entire Eleventh Five-Year Plan and of 1983 in particular.

The main task of farming in 1983 is to further increase the production of grain and feeds. According to calculations, about 124 million hectares will be planted in grain crops in 1983, or approximately as much land as was planted in 1982. The entire increase in grain production, consequently, is to be provided as a result of increasing productivity and bringing it up to an average of 19.2 quintals per hectare on the entire area. The fulfillment of this difficult task will be facilitated by a more extensive introduction of industrial technologies for cultivating corn, rice and other grain crops, improving the structure of production, expanding the areas planted in the more highly productive grain crops, and introducing new strains of grain and pulse crops into production. In 1983 considerably more grain crops will be planted on clean fallow, which essentially increases the stability of grain production. The overall area of clean fallow should increase to 19.3 million hectares in 1983.

The fight against losses remains a serious problem in grain production. Lodging of grain crops causes a great deal of harm. This is largely related to incorrect application of mineral fertilizers and excessive application of the nitrogen part of them. With increasing the volumes of deliveries of mineral fertilizers, skillful utilization of them is one of the main factors in increasing productivity.

In addition to grain production, feed is at the center of the attention of kolkhozes and sovkhozes and agricultural and soviet agencies. In 1983 it is intended to procure 23 percent more of them than was actually procured in 1981. The main way of carrying out this task is to increase the productivity of each hectare of feed areas. For these purposes it is intended to apply no less than 6 million tons of mineral fertilizers in active substance to feed crops as compared to an average of 4.6 million tons during the years of the Tenth Five-Year Plan. At the same time the area of irrigated land on which feed crops are cultivated will increase by almost 1 million hectares, and 2.8 million hectares of hayfields and pastures will be improved. It is planned to increase the overall feed resources to 443.9 million tons of feed units in 1983, including concentrated feeds--to 147 million tons, juicy feeds--70 million tons, coarse feeds--85 million tons and green summer feeds --more than 132 million tons.

A significant amount of attention will be devoted to improving the quality of all feeds, and their balance in protein. For these purposes it is intended to expand the areas planted in pulse grasses--alfalfa and clover--and also peas, vetch, soybeans and lupine. In 1983 there will be larger volumes of preparation of feeds by progressive methods (active ventilation, pressing and chemical preserving). There will be a larger number of warehouses for storing feeds, but the need for them will be far from fully satisfied. The kolkhozes and sovkhozes will continue work to separate feed production into an independent branch and increase the number of brigades, detachments and teams specializing in feed procurements.

Questions of increasing the production of grain and feeds and more fully utilizing reserves in October-November 1982 were discussed at plenums of the obkoms and kraykoms of the central committees of the Communist parties of the union republics. Measures developed and adopted at these plenums will be a basis for the work for significantly improving the state of affairs in feed production.

Enterprises of many ministries and departments will have to increase their contribution to the matter of strengthening the feed base for animal husbandry in 1983. There will be greater production of high-quality mixed feeds that are balanced in the basic nutritional substances at enterprises of the USSR Ministry of Procurements. The microbiological industry will increase the production of nutritive protein by almost 15 percent as compared to 1982, and it will produce more premixes and antibiotics. The meat and dairy industry will expand the production of dry animal feeds and whole milk substitutes.

Existing capacities for increasing feed production and improving its quality will be more fully utilized--this is one of the main areas of the plan for 1983.

Workers of the APK will have to carry out large tasks in 1983 for increasing the production, improving the quality and efficiently utilizing other farming products. Sugar beet growers of the kolkhozes and sovkhozes and workers of the sugar industry will have the task of providing for the fulfillment of the plan for procurements of sugar beets.

Potato growers of the country will be struggling to obtain a gross yield of this valuable product in a volume of 89 million tons and to provide for procurements of it in a quantity of more than 18 million tons.

Vegetable growers intend to obtain almost 30 million tons of vegetables and to sell no less than 19 million tons of them to the state. The main area for ensuring high indicators in this branch is increased productivity, reduced losses of products that are raised and an improved structure of vegetable products. The production of tomatoes, cucumbers and onions will increase at more rapid rates. High goals will have to be achieved in fruit and grape growing. The gross yield of fruits is to amount to a volume of 11.2 million tons, and the sale of them to the state--6.4 million tons, and the figures for grapes are 7.5 and 6.3 million tons, respectively.

A significant role in carrying out this task is assigned to the USSR Ministry of the Fruit and Vegetable Industry. Processing enterprises of this ministry are to increase the output of canned goods by almost 20 percent as compared to 1981 and to improve their assortment considerably. Retail commodity turnover in the ministry's trade network will increase by more than 12 percent, and capacities will be increased for storing potatoes, vegetables and fruits. Measures have been earmarked for improving the transportation of fruit and vegetable products and expanding deliveries of products according to the scheme "field--store." All this will contribute significantly to reducing losses and retaining the quality of fruit and vegetable products and potatoes.

Large tasks have been set for cotton growers of our country in 1983. As in previous years, they will be struggling to increase the production of raw cotton and to considerably improve its quality. All indicators related to the development of this branch are envisioned strictly in keeping with the five-year plan. The areas planted in thin-fibered strains of cotton will be expanded on cotton growing farms.

In 1983 it is intended to implement measures for increasing the production of oil-bearing crops and better satisfying the needs of the population for vegetable oil. There will be larger areas for cultivating sunflowers with the application of progressive technologies and the utilization of herbicides and dessicants with more active introduction of early ripening strains and hybrids.

One of the main tasks of the third year of the Eleventh Five-Year Plan is to overcome the arrears in the development of animal husbandry. Taking into account the actual procurement of feeds from the 1982 harvest, the kolkhozes and sovkhozes intend to increase the production of meat in slaughtered weight in 1983 as compared to 1980-1982 by almost 1 million tons, milk--4 million tons, eggs--1 billion and wool--19,000 tons. The main direction of work for carrying out these difficult tasks is to increase the productivity of the existing animals. The milk yield per cow is to increase by approximately 120-125 kilograms in 1983 as compared to 1982. A certain increase in the milk productivity of the cows was begun even in 1982. Meat production per one head of large horned cattle and also of hogs is to increase by 10-11 kilograms. This will be promoted by improvement in the supply of feeds for the animals and a higher level of their feeding, which will make it possible to achieve a reduction of feed expenditures per unit of products produced. According to calculations for the 1983 plan, it is intended to expend 10.3 quintals of feed units for each quintal of weight gain of large horned cattle on the kolkhozes and sovkhozes as compared to 13.8 quintals which were actually expended in 1981. For one quintal of weight gain of hogs feed expenditures are to decrease from 9 quintals of feed units in 1981 to 7.9 quintals of feed units in 1983, and for one quintal of milk these figures are from 1.56 to 1.35 quintals of feed units, respectively.

Animal husbandry workers of the kolkhozes and sovkhozes must increase the live weight of the livestock that are sold and reduce the time periods for raising and fattening them. Unfortunately, the achievement of greater live weight of livestock on many farms is provided as a result of extremely prolonged fattening times. In a number of union republics the young large horned cattle intended for slaughtering reach a live weight of 400-500 kilograms only in 1,000 days, even though the potential possibilities make it possible to achieve this weight at an age of 450-500 days. When animals are retained too long the overall expenditures of feeds and labor increase and there is a considerable increase in production costs. Reducing the time periods for raising and fattening is the main task to increasing the efficiency of the development of cattle and hog raising.

Stable development of poultry raising makes it possible annually to overfulfill the planned assignments for the procurements of eggs. The growth of the volumes of production and sales of eggs will continue in 1983. But there are still many unutilized reserves and possibilities in this branch. Far from all enterprises have reached the planned capacity, and they have indicators envisioned in the technical and economic substantiations. The differences in the indicators of the operation of individual enterprises and trusts of Ptitseprom are fairly significant.

In keeping with the plan for the economic and social development of the USSR which was approved by the session of the USSR Supreme Soviet, 1983 should become a year of accelerated introduction into practice of advanced experience and the achievements of scientific and technical progress. In agricultural production we are expanding the application of new technologies and progressive methods of storing and processing agricultural products and procuring feeds, and the areas planted in new strains and hybrids will increase. Anti-erosion cultivation of the soil is planned for an area of 47.7 million hectares in regions that are subjected to wind erosion. More than 3.2 million hectares of corn will be raised according to industrial technology, and the area planted in new strains of hybrids of grain crops that were regionalized in 1976 will amount to 30.5 million hectares. The area of irrigated intensive orchards will exceed 100,000 hectares.

The system of the USSR Ministry of the Fruit and Vegetable Industry will extensively can semimanufactured fruit and vegetable products in large containers and store fruits in a regulated gas environment. In 1983 there will be larger volumes of comprehensive mechanization of transportation and storage of potatoes and vegetables in containers. Work will be continued for mechanization of processes of commercial processing and packaging of fruit and vegetable products in warehouses and at bases.

A new step in the application of progressive methods will be taken in the USSR Ministry of Land Reclamation and Water Resources. Organizations of this ministry will have to provide for the introduction of irrigated land using sprinklers on an area of 173,000 hectares. And the overall area of land that is to be irrigated by sprinkling should amount to more than 430,000 hectares in 1983.

The achievement of higher goals in the development of agricultural production with a simultaneous reduction in expenditures per unit of output will make it possible to increase the efficiency of public production somewhat. The plan envisions obtaining products in the amount of 42 rubles for every 100 rubles' worth of fixed production capital as compared to 40.4 rubles in 1981. The entire increase in the gross agricultural output should be achieved as a result of increasing labor productivity. It is intended to produce about 19,000 rubles' worth of gross output per 100 hectares of agricultural land, which is considerably more than the actual level for 1981. As a result of better utilization of labor, financial and material resources, outlays for production per 100 rubles of gross output are to decrease by almost 9 percent. At the same time wages in agriculture will increase by 5 percent.

There will be a radical improvement in the financial situation of the kolkhozes and sovkhozes both as a result of better indicators in operation and as a result of considerably increased procurement prices as of 1 January 1983. The increasing profitability of kolkhoz and sovkhoz production will make it possible to have stable sources for financing expenditures on expanded reproduction.

The plan envisions expanding the assistance to the population in developing private subsidiary farming. For these purposes there will be an increase in the volumes of products for physical payment, and also the sale to the population of concentrated feeds from state resources, piglets from public farms and so forth.

As in previous years, the 1983 plan devotes significant attention to the development of agriculture in the nonchernozem zone of the RSFSR. It allots 7.9 billion rubles' worth of capital investments for these purposes, which is 111 million rubles more than was included in the plan for 1982. A considerable proportion of the capital investments (26 percent) will be used for improving social and domestic conditions for the life of the kolkhoz and sovkhoz workers. On the kolkhozes and sovkhozes of the nonchernozem zone of the RSFSR it is planned to construct more than 7 million square meters of dwelling space, preschool institutions to accomodate 53,000, and clubs and cultural centers to accomodate 52,000. At the same time more than 5,800 kilometers of paved roads will be put into operation, of which 3,600 kilometers will be for intrafarm purposes.

The plans for each union republic and each region of the country are directed toward a better solution to social problems. In developing the decisions of the May (1982) Plenum of the CPSU Central Committee, party and soviet agencies practically everywhere drew up and adopted special decrees which earmark measures for extensive construction of housing and cultural and domestic institutions. More assistance will be rendered to individual builders in acquiring construction materials and constructing buildings. Work will be continued everywhere for allotting plots of land for the population and rendering the necessary assistance in working individual plots. All this will contribute to further increasing agricultural production.

Higher indicators for the production and procurements of agricultural products, and the measures developed in the ministries and departments of the APK for improving the quality of products that are produced and also for utilizing them efficiently have made it possible to envision in the 1983 plan an increase in the production of many food products. Enterprises of the food industry will produce and sell 5.6 percent more products than were actually sold in 1982. There will be a considerable increase in the production of vegetable oil, granulated sugar, canned fruits and vegetables, margarine and confectionary items. Enterprises of the USSR Ministry of the Meat and Dairy Industry intend to increase the production of sausage items, semimanufactured meat products, canned meat and other meat products, and also dairy products. A great deal of attention has been devoted to increasing the production of products for children's nutrition.

During the first two years of the Eleventh Five-Year Plan high rates were achieved in increasing the production of fish products. It is intended to retain these high rates during 1983. In 1983 the fish industry will produce more food products than are in envisioned by the assignments of the five-year plan, including canned fish.

Organizational factors will play a significant role in carrying out the plans for 1983 in the branches of the APK. Efficient utilization of material and labor resources constitutes a large reserve. In this connection at the November (1982) Plenum, General Secretary of the CPSU Central Committee Comrade Yu. V. Andropov emphasized: "Today economy and a thrifty attitude toward the public wealth is a matter of the realistic nature of our plans."

The decree of the November (1982) Plenum of the CPSU Central Committee notes the special importance of successful fulfillment of the plan for the economic and social development of the USSR during 1983 for the five-year period as a whole. In this connection attention was drawn to the need to direct all efforts toward the implementation of the most important tasks by the 26th Party Congress--increasing the intensification of public production and increasing the efficiency of the national economy. It is necessary to maximally utilize existing possibilities of improving economic activity, accelerating scientific and technical progress, increasing labor productivity in all units of the national economy and increasing the output and improving the quality of products.

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# PROBLEMS IN SETTING UP VOLOGDA OBLAST RAPO POINTED OUT

Moscow SOVETSKAYA ROSSIYA in Russian 3 Oct 82 p 2

[Article by Yu. Nikolayev, special corresondent, Vologda-Moscow]

[Text] I first heard about the Sheksna experiment 5 years ago. At the "Soviet Russia" round table, held in the Autumn of 1980, which the editorial board of the newspaper conducted jointly with the Pskov Obkom CPSU at Velikiye Luki, which has already been discussed in fairly great detail, as a matter successfully developed. Responsible workers of the USSR and RSFSR ministries of agriculture and "Rossel'-khoztekhnika" especially emphasized that the investigated experience is of principal importance for the subsequent organizational and legal formation of a single agro-industrial complex in the rayon member. The solid scientific basis of the plan was also noted unanimously. For on it much work was done by qualified workers of the Scientific Research Institute of Economics and the Organization of Agricultural Production of the Non-Chernozem Zone of the RSFSR and the Vologda Section of Complex Problems of Development of the Rayon of the USSR Academy of Sciences. Jointly with party and soviet organs on the spot they have created, in the opinion of participants in the round-table conversation, a successful and very promising model of a RAPO--a rayon agro-industrial association.

Then it is recalled, the first secretary of the Velikiye Luki Raykom CPSU, V. A. Prokoshenko, also became inflamed with the "Sheksna idea." He was supported by the secretary of the Pskov Obkom CPSU, A. Ye. Gaponov.

"Everywhere the transition to agro-industrial associations cannot be accomplished without profound and comprehensive surveying and, of course, it is best if the RAPO model is first 'test-run' on separate rayons of different natural climatic zones," he stated.

Then the achievements of the "Sheksna variant," discussed many times at scientific meetings and conferences and on the pages of the periodical press. That system of production, transportation and processing of agricultural production and of flexible and efficient control of all the complex process in the rayon impressed all who succeeded in becoming acquainted with it. Above all, understandably, the possibility of rapid increase of the output of necessary food products. The authors of the plan convincingly proved it is possible that the output of grains, milk and meat can be increased by 2.2-2.5 times, mainly through the regrouping of already existing material, labor and technical resources and their rational application under conditions of a single economic, organizational and social organism. It is also characteristic that the numbers of administrative personnel in the rayon in such case decreased by almost three-tenths of a man. In a word, if one manages wisely, then it becomes completely realistic to achieve considerably better results with a smaller number of people and machines.

It is known that not always well-thought out reconstruction of the structure of agricultural production and of branches connected with them, the separation into independenc organization of sometimes auxiliary services, specialization at times done in too great a hurry accustomed the peasants to being careful in their approach to various innovations. The authors of the plan taught this--an age-old custom of man, to mark off something 7 times before cutting it once. In any case, they stored up sufficient reasons in favor of maturing reorganizations and showed on specific examples that the sum is interchanged from interchange of the terms only in school textbooks. In life, however, everything is far more complex.

Take motor transport. All the kolkhozes and sovkhozes complain of a chronic shortage of it (in Sheksninskiy Rayon 13 kolkhozes, 4 sovkhozes and a broiler factory). However, for needs of agriculture, not so few motor vehicles have been introduced--about 500. Of these 226 are at the farms themselves and 250-280 are sent to the country to servicing and processing enterprises. And there's another thing: at some farms the trucks haul 100,000 ton-kilometers a year, and others--one-fourth as many. The cost indicators of shipments vary by a factor of 5. The coefficient of use of motor vehicle is lower on the average for the rayon--0.5. It appears that every second one stands still every day. Is this any sort of acute shortage of transport equipment?

Even to an inexpert the urgency of concentration of the motor vehicle park in expert hands has become evident from the conducted comparisons. Similar investigations have also been conducted on all other types of machines and mechanisms used in subdivisions of an agro-industrial complex. In the course of a number of years the use of pastures, meadows, livestock and poultry has been studied. And--and it is very important to emphasize--the initiators are not satisfied with the scientific hair-splitting achieved by profound analysis. They have given a distinct concept of how it was necessary to shift, to change places, to regroup, to redistribute, so that all members of a future RAPO would work more effectively at a round table. Their entire system, as they say, can be handled, and the reserves designated for introduction into operation as it were can be touched with their own hands, that one can be sure of their actual presence. It is likely that this also played a decisive role. In any case, as long as 2 years ago in the Vologda Party Obkom we said that there were no skeptics left. In Sheksna all the leaders of kolkhozes, sovkhozes, servicing organizations and processing enterprises spoke warmly of the conducting of the experiment. Moreover, we decided not to await definitive formation of the RAPO, which, of course, cannot be done without corresponding normative acts of the superior organ, and to start to work already under achieved. A single technical policy is carried out. Together the social infrasturcture is developed.

For the sake of justice one should speak in the obkom and express concern for the inert position of the leaders of some ministries and departments whose subdivisions have determined to enter the composition of a rayon agro-industrial combine. I went to Sheksna in the summer, when the task of practical improvement of the methods of administration of an agro-industrial complex and the entire mechanicalism of farming in the sphere of food production, including on the rayon level, had already been determined with exhaustive completeness. And there were reasonable grounds for assuming that somewhere, and in Sheksna in particular, that will be obtainted. Still they long ago began to form here, speaking in the words of L. I. Brezhnev, to form "an actually competentent and democratic organ of administration, capable of fully acting on production..." The expectations were not justified. "Unfortunately, the experiment did not go beyond the state of discussion, although it was widely advertised," says the chief of the Shekssna Rayon Agricultural Administration, the first deputy rayispolkom chairman, V. F. Murav'yev.

Probably noting my bewilderment, Valentin Fedorovich explains:

"No, of course. All these years have not altogether been wasted for us. We have been able to achieve something.

"Actually, the Sheksna party organization undertook many efforts to overcome the inertia in economic thinking and the organization of modern methods of administering the forming agro-industrial complex. Upon the initiative of the raykom this has seen, shall we say, a rearrangement of traditional forms with consultative functions. In place of the earlier commissions, councils and staffs, from the workers of various departments, a council of representatives of enterprises and organizations of the agro-industrial complex is formed. In proportion to their capabilities the rayon authorities have striven to produce it with the corresponding powers. All the rural contractors and processors of the production of fields and farms have become accustomed to think "from the land" and to start from the final result. A definite psychological turning point has occurred and this has been reflected in many aspects of rayon life. But perhaps the enthusiasts had calculated on such very modest results?

What's the matter? Why interestingly has well thought-out experience still not yet been manifested in those volumes in which they were designated? And precisely those conditions were formed--you do not think of better. From the very start the experiment found itself in the course of pivotal directions in the growth of food production--solid preparatory work and a basis for practice in contemporary scientific thinking. Finally, readiness, above all a passionate desire of specific executives to assume direct responsibility for introduction of progressive novelty in the sphere of administration of an industrial complex. And now an entire Five-Year Plan has passed, and the motion is insignificant.

"All at once you will observe a stream of questions," says S. A. Osminin, Fologda CPSU Obkom secretary. "No one either in the union or republic ministries of agriculture or on the staffs of processing and servicing branches spoke out openly against the creation at Sheksna of an experimental rayon agro-industrial association; the discussion was only spent on details, and no practical steps were undertaken toward its organization. We determined that it was within our power to found such an association, but not all questions can be solved within the framework of the oblast. In particular, it is not within our competence to change the procedure of financing subdivisions of an agro-industrial complex or to set right independently their supplying with materials and equipment..."

First deputy chairman of the Vologda Obispolkom L. N. Vologdin, also speaking in favor of the experiment, adds:

"Right after the Party Congress, in the autumn of 1981, we were invited to the Russian Gosplan. There they asked in detail what we proposed to do and how. Having been assured by responsible comrades that the matter had gotten off dead center, we took heart. However, everything remained as before."

"Yea, there was such a meeting," recalled the chief of the agriculture and procurements section of the RSFSR Gosplan, V. A. Sokolov. "We approved the Sheksna RAPO plan, and even prepared the corresponding paperwork."

He was silent for a moment and then evidently considered it necessary to add:

"Well, it was not available from us for you, for Abash Rayon, as well as Georgia! Whose hands are to receive transfers, when agro-industrial associations are being created everywhere?"

To that I was silent, knowing that I couldn't count on anything from them.

In passing among the union and republic ministries and departments, little was cleared up; everywhere they spoke extremely guardedly and with the same Gosplan accent about the coming reorganization. Why more old matters about, they say, when the new ones are at the threshold?

Perhaps there really is no sense in returning to previous problems surrounding a good plan. What is past is past and it is time to be concerned with today's concerns. And today, everyone knows, preparations are being made everywhere for the creation of rayon agro-industrial associations. But it seems that failure should not be buried in oblivion. Useful lessons must be extracted also from defeats. All the more so that the obstacles which did not permit the experiment to be developed can be manifested also in the present stage of reorganization of administration. Yes, they actually are already making an appearance.

The great proletarian writer Aleksey Maksimovich Gor'kiy very wisely noted: conservatism arises on the soil of comfort. Latent and also overt fear of developing changes on the part of some leaders of servicing and processing branches have up to now held back the implementation of the plans of the Sheksna workers and creation of the RAPO. How in the opposite case it would be necessary to change the style of the work, to assume additional concerns, to waive their rights in part and to get rid of obsolete criteria in estimates. There is no turning back there and it is necessary to give up the comforts of previous habitual activity not directly connected with either harvests in the fields or the milk yield gains at farms.

"This is not at all to my liking!" said V. F. Murav'yev, chief of the SHEKSna Production Administration of Agriculture at one of our meetings. "Ideas of the practical composition of forces, transfer to a rayon member of some economic levels, still entirely in the hands of various departments, encounter especially especially strong opposition."

After the May Plenum of the CPSU Central Committee, in all the oblast organizations connected with the servicing of agriculture and the processing of agricultural raw material conference were held with leaders of their rayon subdivisions. In the course of those conferences the workers of the rayon level were given guarded but unambiguous recommendations "not to act in haste with initiative," to try "to enter the RAPO, not to yield positions," "not to lose force..." The separate leaders of the associations "Vologdamelioratsiya" and "Oblmezhkolkhozstroy," in general, expressed the hope that their forthcoming reorganization of administration of the agro-industrial complex hardly applies.

It is noted with interest that in most rayons such recommendations, advices, wishes--whatever you want to call them--are received without evident alarm. The matter has begun to be very serious, and it cannot be assumed that the action will not again be done in haste. At Sheksna they could not detect even undesirable symptoms after such complaints. Everyone I conversed with from among the leaders of servicing organizations and processing enterprises was firmly convinced, literally, that it is not the time now to clutch at any sort of past departmental privileges. It is necessary to seek and obligatory to find paths connecting positions in the struggle to implement the Food Program, and not to strive to uncouple them.

2174
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# MAGNITOGORSK SUBSIDIARY ENTERPRISES EVALUATED

Moscow KHOZYAYSTVO I PRAVO in Russian No 12, Dec 82 pp 67-70

/Article by F. Pivovarov, deputy director of the Magnitogorsk Metallurgical Combine imeni V.I. Lenin: "Subsidiary Farms of the Magnitogorsk Metallurgical Combine"/

/Text/ We have two subsidiary farms: dairy-vegetable and hothouse-horticultural. Their fixed productive capital has now reached 33 million rubles.

In 1981 the gross output of the subsidiary farms amounted to 8 million rubles and surpassed the 1975 level by 2 million. Last year the collective at the Magnitogorsk Metallurgical Combine obtained from its agricultural departments 1,050 tons of meat (in dressed weight), 2,730 tons of potatoes, 4,200 tons of milk and 3,580 tons of vegetables, including 1,185 tons grown in hothouses. Public catering was supplied with 240 tons of fruit and berries from the horticultural department.

For each worker at the enterprise, the subsidiary farms are producing 16 kg of meat (in dressed weight) and 70 kg of milk. The vegetable and potato requirements of public catering are being satisfied in full.

The collectives of the agricultural departments number many industrious people. Taking advantage of the experience of leading sovkhozes in the oblast, our plant and vegetable growers and animal breeders are striving to use their land and equipment in a more efficient manner.

Such animal husbandry workers as Zinaida Alekseyevna Mikhaylova, Petr Romanovich Zaguba and Mariya Nikolayevna Baganovskaya, agronomist Anna Ivanovna Satskevich, hothouse worker Antonina Sergeyevna Pyshkina and others have proven themselves to be true masters of their work. In 1981, machine-milking operators Nadezhda Yegorovna Shchukina and Nina Vasil'yevna Glushchenya obtained an average of 3,400 kg of milk from each cow, compared to an average milk yield for the sovkhoz of 2,400 kg.

Our subsidiary farms enjoy the status of production units attached to an association (combine). They were created in conformity with the regulations for the Magnitogorsk Metallurgical Combine imeni V.I. Lenin, approved by order of the USSR Ministry of Ferrous Metallurgy dated 12 December 1976. The regulations provide a list of enterprises which are subordinate to the combine, including subsidiary farms. Their activities are controlled by the statute governing a production association (combine), approved by a decree of the USSR Council of Ministers.

For having successfully carried out the 1980-1981 livestock wintering operations, for ensuring protection for the animals and for having increased the production and deliveries to workers' supply of meat and milk, the collective of the dairy-vegetable farm was awarded the diploma of the USSR Minchermet /Ministry of Ferrous Metallurgy/ and the Central Committee of the Professional Trade Union for Workers in the Metallurgical Industry and 1st prize. The collective of the hothouse-horticultural farm, based upon the operational results for 1981, earned 1st place among the subsidiary farms of enterprises of the USSR ferrous metallurgy industry. It was awarded a challenge red banner of the ministry and the Central Committee of the professional trade union.

In addition to expanding the production of agricultural products at the combine, a complex of measures is being introduced for improving the storage and processing of potatoes and vegetables. During the autumn of last year, in collaboration with a design bureau of the Ministry of the Fruit and Vegetable Industry of the Belorussian SSR, our public catering combine tested a method for storing potatoes and vegetables in a gas environment. Towards this end, we acquired two ozonizers and we trained a group of specialists in the technology employed for the gas treatment of storehouses.

Reassuring results were obtained. Following initial processing and placement in winter storage, no waste products were noted in the case of potatoes and vegetables subjected to ozonization and they were preserved entirely. A savings of 18,000 rubles was realized just in the form of wages for the potato sorters alone and the reduction in waste products produced an economy of 14,000 rubles. But the most important factor was that approximately 200 tons of vegetables and potatoes were preserved.

For a long period of time now we have had a department for the production of semi-finished vegetable products. Here use is made of a technology for the mechanical cleaning of the potatoes and vegetables, the waste products of which amount to 30 percent of the initial weight of the tubers. It was not too long ago that we acquired equipment for cleaning potatoes and vegetables using the thermal method. Here the waste products remaining after the production of semi-finished vegetable products are reduced by threefold. In addition, this enables us to reduce the volume of potatoes and vegetables placed in winter storage for public catering purposes by 600 tons, or by 20 percent. The potatoes and vegetables thus saved are used for supplementing the feed ration of the animals.

In 1981 we built nine granaries and raised their overall number to 30. The present storehouse capacity is adequate for storing grain crops under favorable conditions even when high yields are obtained.

However, we still have many unsolved problems associated with the production of meat and dairy products, vegetables and potatoes and also with organizing their storage and processing. Zootechnical and breeding work is being carried out at a low level. Our animal breeders are inferior in many respects to those on leading farms in Chelyabinsk Oblast. Feed preparation is still being carried out based upon a backward technology. Thus a considerable amount of feed is still being used in an irrational manner.

Taking into account our available reserves, a plan was approved at the combine in October 1981 for developing the subsidiary farms for a 5-year period. In order to ensure guaranteed yields for the potatoes and vegetable and forage crops, the area of irrigated land will be increased by 30 percent and reach 2,000 hectares. At livestock complexes, the plans call for the number of large-horned cattle to be increased to 6,500 head and hogs to 15,000, or 25 percent more than the present level. The dairy herd will be improved from the standpoint of quality by increasing the number of cows of the black-variegated strain.

We intend to use the experience of neighboring farms in the Bashkir ASSR in the development of horse breeding. At the present time, our subsidiary farm has 400 horses, with the number having been increased by 70 head this year. This branch of animal husbandry is very profitable. Only five workers are required for maintaining these 400 head. The herd grazes the year round on the flood-plain of the Malyy Kizil River. We plan on increasing the number of horses to 600 head.

We are attempting to solve the fish problem. The designers are presently engaged in developing the planning documentation for the construction of a dam along one of the tributaries of our reservoir. We will subsequently be able to obtain up to 300 tons of fish there.

Our measures for the five-year period call for a large volume of construction work to be carried out on the subsidiary farms by the departmental collectives. Specific construction projects have been defined for each production operation and the schedules for carrying out the work have been established.

At the present time, work is being completed for the dairy-vegetable farm on the construction of a machine-tractor workshop, an apartment building for 16 apartments and twelve twin-apartment buildings. The planning has been completed and soon the construction of a feed preparation shop will commence. Once it is placed in operation, an opportunity will present itself for introducing into operations a dairy complex for 800 cows and a fattening site for 1,000 head. Two pigsty-nurseries will be built at a hog raising complex.

A considerable amount of work is being carried out on the subsidiary farms in connection with raising the responsibility of the personnel for their assigned tasks and protecting socialist property. Two years ago a system for evaluating the quality of labor, developed by the combine's department for labor organization and legal service, was introduced on the farms. From six to eight evaluative indicators for the fulfillment of quantity and quality indicators, the observance of production and technological instructions, care in the operation of equipment, labor discipline, the maintenance of working areas and others were defined for the workers. A worker is assigned four points for having fulfilled all of the evaluative indicators. In the case of non-fulfillment of one or several indicators, a lower evaluation is issued.

For the purpose of raising the interest of the workers in over-fulfilling the more important evaluative indicators to the maximum possible degree and displaying initiative and creative activity, the rates for a raised normative evaluation have been established. At the end of a month's time, the average monthly evaluation for quality is assigned and thereafter the bonus amounts are determined on this basis.

The recording of fulfillment of evaluative indicators during a shift is conducted by a brigade leader or department head by agreement with the party, professional trade union and komsomol committees. The evaluations for each shift are announced during brigade shift meetings and they are displayed on a screen for general viewing.

The system for evaluating the quality of work, introduced into operations on the subsidiary farms, has raised to a considerable degree the collective responsibility of the personnel for the results of their work. Truancy has been reduced by a factor of 1.5 and labor productivity has been raised by 8 percent.

Notwithstanding the complicated weather conditions experienced last summer, the workers on the subsidiary farms succeeded in protecting their sowings of grain and other crops against the dry winds. The farm workers performed in a selfless manner in harvesting their crops. They succeeded in procuring an adequate quantity of coarse feed for the maintenance of their large-horned cattle and a fine harvest was obtained from the potato and vegetable plantations.

The combine's legal department, jointly with the leaders of the subsidiary farms, developed a standard for the protection of socialist property. It was placed in operation last year. This standard establishes the requirements for workers with regard to ensuring proper protection for material values, raising responsibility for losses, spoilage, damage to agricultural equipment and for the misappropriation of grain and animal husbandry products and providing compensation for material damage sustained. The standard defines the system for concluding agreements concerning the complete material responsibility of officials.

With the aid of the legal department, an all-round system of legal training for the workers has been introduced on the subsidiary farms. The measures called for in this system must not only furnish legal knowledge but in addition they must arouse in the consciousness of each worker the need for clearly observing and following the legal regulations. This will promote strengthened labor discipline, the observance of public order, the protection of socialist property and improvements in labor productivity.

A great amount of attention is being given to improving the housing and domestic conditions for workers on the subsidiary farms. Over a five-year period, we plan to build two 16-apartment and 15 twin-apartment buildings for them. These facilities will have central heating, water lines and suitable outbuildings. A hospital, two kindergartens, three stores, a club and two domestic facilities will be placed in operation. Considerable funds are being allocated for improving roads and streets. The overall volume of capital investments to be used for developing the subsidiary farms during the five-year period will be in excess of 5 million rubles.

The implementation of agrotechnical and zootechnical measures, the development of a logistical base for the subsidiary farms and strengthening the legality of all economic activity will make it possible for us to increase the production of agricultural products by 23 percent prior to 1985. The plans for the last year of the five-year plan call for 1,250 tons of meat in dressed weight, or 22 percent higher than the 1980 level, to be obtained and for milk production to be increased by 28 percent -- and to reach 6,700 tons.

In view of the fact that at the present time the subsidiary farms are supplying adequate quantities of potatoes and vegetables for public catering, increases in the production of these products are not planned. But qualitative changes are expected to take place in the assortment of vegetable crops being made available. We will expand the tomato growing space in our hothouses, since the demand for this product is not being satisfied completely. The areas being used for berry crops are being increased in size, with the output expected to reach 200 tons by 1985.

The planned goals require a tremendous amount of effort not only by the subsidiary farm workers, but also by all of the departmental collectives and by each worker attached to the enterprise. In carrying out these tasks, we will make a worthy contribution towards implementing the food program. During the November (1982) Plenum of the CPSU Central Committee, Comrade Yu.V. Andropov stated: "The subsidiary farms of industrial enterprises are becoming stronger."

Not only do we have them, but we are developing them as well. However, there are some difficulties standing in our path.

At the present time, we are disturbed by certain important problems the solving of which requires assistance by the USSR Ministry of Ferrous Metallurgy and the oblast organizations. Some relationships require normal regulation.

Our agricultural departments are suffering from a shortage of certified specialists. A number of posts are occupied by individuals who possess only a weak knowledge of the work. They are unable to display proper initiative. And our requests for agricultural specialists are by no means being satisfied fully.

Important problems concerned with supplying the subsidiary farms with agricultural machines and mechanisms are not being solved in a timely manner. Decree No. 985 of the CPSU Central Committee and the USSR Council of Ministers dated 4 December 1978 and entitled "Subsidiary Farms of Enterprises, Organizations and Institutes," placed subsidiary farms on the same footing as sovkhozes and kolkhozes with regard to being supplied with equipment, spare parts, tractors, combines and other logistical resources.

Actually, this is still not taking place. The local oblast and rayon organizations are responsible for the sovkhozes and kolkhozes fulfilling their plans and they do everything possible to ensure that they are fully supplied with all of the required logistical resources. As a rule, nothing is made available for the subsidiary farms of enterprises.

In 1980, the funds to be used for fuel and lubricating materials by enterprises were reduced and the funds thus released were turned over to agriculture. With regard to our combine, this reduction in funds was carried out without taking into account our two subsidiary farms. We are presently suffering from a shortage of fuel. Yes and the reduced funds are not being made available on a timely basis. It was for this reason that the sowing of grain crops at the subsidiary farm this past spring was delayed by 1 week. During the summer no fuel was available even for the irrigation machines and we have 80 such units.

The combine's subsidiary farms have capacities at their disposal for 800 tons of fuel and lubricating materials. This is the second year that they have been empty. We are able to obtain 3-4 tons of gasoline or diesel fuel daily only after standing for hours in the reception room of the director of the Magnitogorsk Petroleum Base.

In this regard, I would like to submit a proposal: when preparing the documents which regulate the activities of subsidiary farms of enterprises, do not overlook the problem concerned with ensuring that they are provided with adequate logistical support.

I believe that all of the opportunities are available for supplementing the country's food balance by means of the subsidiary farms of enterprises. It is only necessary to provide them with maximum assistance and support.

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## TILLING AND CROPPING TECHNOLOGY

# INADEQUATE APPLICATION OF RESEARCH IN PLANT GENETICS

Moscow PRAVDA in Russian 17 Dec 82 p 3

[Article by A. Sozinov, academician of UkrSSR Academy of Sciences and VASKhNIL: "Is the Contribution Adequate?"]

> [Text] During the past 20 years the productivity of the main agricultural crops has doubled in the developing countries. It has been proven that 40-50 percent of the progress has been achieved because of selection work. Let us compare: on one side of the scale are immense material expenditures for improving the technology of cultivation and increasing the production of fertilizers and pesticides, and on the other--the labor of relatively small collectives of specialists who change the hereditary properties of the crop plants. This comparison clearly demonstrates the immense possibilities of selection work.

Practical workers are convinced for themselves of the potential of selection work when on one and the same field a new strain of winter wheat surpasses the productivity of the old strain by 15-20 quintals per hectare, with all other conditions being equal.

In recent years domestic science has achieved significant success in this area. Thus it isolated short-stalked strains of wheat, rye and barley that are resistant to lodging, nonshedding peas, highly productive cotton with high-quality fiber, and nonalkoloid lupine. Under the Tenth Five-Year Plan 730 new strains and hybrids were regionalized, and valuable breeds and lines of animals and strains of microorganisms appeared.

But successful implementation of the tasks set by the USSR Food Program requires more. It is necessary to make qualitative changes in the organization of the selection process.

In order to obtain large and stable yields in unstable weather conditions the majority of the agricultural regions of the country cannot do without an adequate diversity of new strains and hybrids which are adapted to local conditions and resistant to drought, low temperatures, diseases and pests.

We need breeds of animals that withstand well the stress that is inevitable when they are kept in large complexes. It is necessary to have livestock for the agricultural regions with severe climates which are accustomed to scanty pastures and capable of producing acceptable products under the conditions of Siberia. The microbiological industry needs strains of microorganisms which are "record breakers" in producing essential amino acids and other valuable substances. Today there is a critical problem of obtaining effective nitrogen fixing microorganisms which supply not only pulse crops, but also grass crops with nitrogen from the atmosphere.

Finally, it is necessary to have varieties of crop plants that correspond to industrial methods of cultivation better and maximally accumulate economically valuable biomass in a short growing period which is typical for the majority of zones of our country.

A leading role here is assigned to genetics. It is capable of arming selection work with methods that make it possible to engineer new forms of plants, animals and microorganisms with the necessary set of value indicators and properties. We need not simply selection, but the best selection in the world. It will be necessary to form more rapidly scientific schools for the development of areas of genetics that are capable of making a weighty contribution to the progress of domestic selection work.

But what is the state of affairs? We must admit that the level of development of genetics is still inadequate for a sharp increase in the effectiveness of selection work.

The serious underdevelopment in this area has already had a negative effect, for example, on the results of the selection of hybrid sunflowers, hybrid sugar beets, and early ripening highly productive hybrids of corn. There is a clearly unfavorable situation with respect to the creation of immune (well protected from harmful influences) strains. While occupying first place in the world in terms of gross yields of barley, sunflowers and sugar beets, we have practically no fundamental work on the genetics of these crops. The situation is no better with respect to genetics of corn, peas, rape, lupine, flax, cotton, grapes and fruit crops. The genetics of animals is developing unsatisfactorily.

At the same time successes in biological sciences, primarily physico-chemical biology, are creating conditions for qualitative changes in genetics and selection. Thus we have read the code of many genes of microorganisms, plants and animals. Genetic engineering and biotechnology have originated. There is no doubt that if scientists are able to establish the internal links that exist between processes at the molecular level and the change in the value indicators and properties of the organism, this will considerably expand the possibilities of selection work.

A special role will probably be played by research at the juncture between physico-chemical biology and genetics. Successes in the study of intraspecific changeability of protein molecules have become a principally significant event. For example, in wheat and barley they are accompanied, as was clarified in the All-Union Selection and Genetics Institute (Odessa) and the

Institute of General Genetics of the USSR Academy of Sciences, by a change in the economically valuable indicators--productivity, quality of grain and resistance to low temperatures, drought and diseases. For the first time it became possible not on a field, but in the laboratory to judge these properties from the protein spectrum and efficiently design the necessary genotypes and make the origin of the strains more precise.

The undoubted advantage of this method of evaluation is the mass nature of analysis and the reliability of the information that is obtained, since the protein spectrum does not depend on the conditions for cultivation, and is determined by the genotype. During a day one specialist can investigate 150 specimens, for which even a half quintal of grain is enough. This method of genetic analysis is already being used in selection programs in our country and is being recognized abroad. It helped selection workers to isolate highly productive, high-quality strains of winter wheat and to organize their seed growing on a genetic basis.

We have all the necessary conditions for successfully disseminating achievements like this. There are 70 large crop growing and animal husbandry selection centers in operation in the country. They have at their disposal laboratory buildings, hothouses, thytotrones and physiological yards. But, unfortunately, selection workers still considerably prefer, as before, to be guided in their work by intuition. New ideas and methods that arise at the juncture between genetics and physico-chemical biology make their way slowly into this area of knowledge and practice.

It seems that one of the major reasons for such a bad phenomenon is the separation of fundamental research from the solutions to applied problems. If one reviews the work on genetics published in recent years in our country it is not difficult to note that the best of these projects have been carried out, as a rule, at model facilities--fruit flies, laboratory animals, arabidopsis. Such research is undoubtedly necessary. But why are crop plants, animals and economically valuable biological objects not popular among experimenters? Of course, it is difficult to work with them in academic institutes where most frequently they do not have the conditions for raising and maintaining them. But all this exists in selection centers. Close contracts should be set up with them. Practice has already given examples of the high effectiveness of this kind of interaction.

The division for chemical genetics of the Institute of Chemical Physics of the USSR Academy of Sciences, headed by a corresponding member of the USSR Academy of Sciences I. A. Rapoport, has for many years actively cooperated with selection centers by providing them with substances that are capable of causing mutations in plants or, on order, processing feed material. Thus the results of fundamental research on chemical mutagenesis made it possible to create many new strains. Some of them have surprising properties. I shall name one: Pervenets sunflower seed oil approaches olive oil in terms of its fatty acid composition.

Of no less practical significance are joint work projects with selection institutions by the corresponding member of the USSR Academy of Sciences, V. A.

Strunnika on the genetics of the mulberry silk worm, academician D. K. Belyayev--on the problem of domesticating animals, and corresponding member of the USSR Academy of Sciences, R. G. Butenko--on the utilization of cultures of cells, tissues and organs of plants.

Scientists also give reliable recommendations regarding the control of natural populations which are of industrial significance. The Institute of General Genetics of the USSR Academy of Sciences and the Institute of Marine Biology of the Far Eastern Scientific Center conducted research jointly with specialists of the USSR Ministry of the Fish Industry under the leadership of doctor of biological sciences Yu. P. Altukhov on the genetics of population of salmon in regions of the Far East. Their results have already been taken over by practice.

Unfortunately, such cooperation has still not become the rule. In recent years selection centers have begun to show a marked loss of interest in genetic work. Some of them have no subdivisions of this profile at all. Managers of centers, as a rule, shy away from participation in the fulfillment of coordinated plans for developing genetic problems, and VASKhNIL is not taking effective measures.

It will be necessary to significantly intensify genetic research in the country, bringing it closer to the needs of practice. To do this, in my opinion, it would be worthwhile for institutes of the USSR Academy of Sciences to take on the role of head institutions in this area and become real leaders here. They must be given the appropriate authority and be seriously strengthened. I think the time has come to consider these measures. For example, the Institute of General Genetics of the USSR Academy of Sciences, which is called upon to conduct work in the new main directions, still does have the entire material and technical base for conducting this work on a modern level. There are no hothouses, experimental facilities or various types of equipment. It will be necessary to strengthen contacts with selection centers and scientific institutions that are implementing the Food Program. It stipulates the need to expand research in genetic engineering of plants, animals and microorganisms. The guarantee of success here is intensive development of genetics.

Of course, no achievements of science can be really useful if conditions are not created for their rapid transfer into selection practice and production. In this same Institute of General Genetics they have obtained on the basis of remote hybridization and polyploid engineering highly productive strains of potatoes that are resistant to diseases. They have been regionalized in many areas. But the institute is not able to carry out the seed growing itself, and the agricultural scientific institutions and Sortsemprom do not wish to propagate "foreign" strains.

It is time to eliminate departmental barriers both in the organization of research and in the stage of practical assimilation of the results that are obtained. This is important for successful fulfillment of the USSR Food Program.

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